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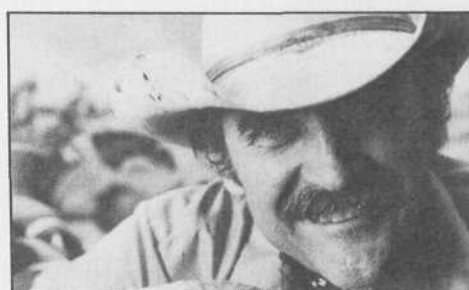
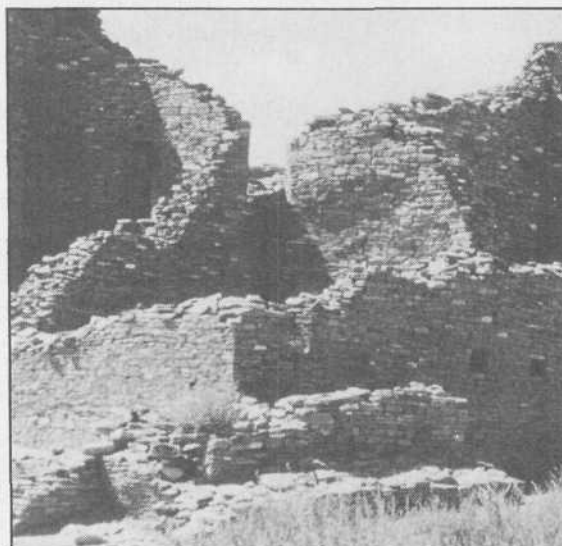
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*Cover* Jeff Gnass captured Square Butte, standing stark on Arizona's Colorado Plateau and lit by a May afternoon sun.

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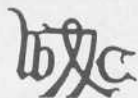
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# LETTERS

## HOW OLD IS CALIFORNIA MAN?

I am the physical anthropologist who did the reconstruction of the Yuha Man (*Desert*, April '80). I studied every fragment of the skeleton and some of author Herman Ronnenberg's statements are not entirely true.

We know that through an oversight at the time of the excavation, one set of measurements was not recorded properly. As a result, the cairn could have extended anywhere from four to six feet south of the south wall of trench "A." If the cairn extended only four feet, it would not be long enough to completely cover an extended burial. The feet could have been removed at the ankle or the knee (the bones are missing from both of these areas), and placed alongside the body.

A six-foot cairn would provide enough room for a double burial. One individual could have been placed on top of another with the top one's feet up by the lower one's arms. Granted, not enough bone was found to positively state this but most of the second body could have been above the caliche zone and without that protection, most of the top skeleton could have eroded away.

One statement in the article is completely false. There is no evidence that "... the skull was depressed in a way that indicated the individual died violently." Pressure and moisture combined to erode and crack the bones, not only of the skull but of the rest of the skeleton. The skull, being hollow, was further warped and depressed by the weight of the soil. During reconstruction and subsequent study of the skull, no evidence was found to indicate the individual died from a blow to the head.

My third point is that the age of the Yuha burial is far from "indisputably established." A thorium date was taken on the caliche surrounding the bones. Amino acid dates were made on samples of the bones at two California laboratories, and all of these results indicated dates in the range of 22,000 B.P. Amino acid racemization is a fairly new form of dating. Until the process has been proven to the satisfaction of the scientific community, the date of the Yuha Man will remain in question.

Karen M. McNitt  
El Centro, Calif.

*Ms. McNitt's letter was given by us to author Ronnenberg who replied to her as follows: "The idea of two people being buried in the cairn is intriguing but I've not heard it before. It is not mentioned by either Rogers or Childers in their publications concerning the Yuha Man. If your research*

*to this effect has been published, I missed it, and if it has not been published, I can hardly be expected to know of it. My opinion is that it is pure speculation and in any case, it has no bearing on my article and therefore, I would not have included it anyway.*

*"In regard to the depressed skull, my sentence that 'the skull was depressed in a way that indicated the individual died violently...' should have gone on to say that the initial indication proved false. The caption on page 41 for the close-up of the badly fractured skull is much clearer when it says: 'The Coroner who by law was called when Yuha Man was found suspected foul play but in fact, the skull was squashed and fragmented by pressure from the earth and rock above it.' I believe this is essentially what you say in your letter.*

*"Now, as to the age of the skeleton, several carbon 14 dates of caliche from the site have yielded 21,000 to 22,000 B.P. dates. Rogers (cited above) stated the thorin date 'indicated a comparable antiquity.' You say in your letter that amino acid samples indicate a similar date. I agree that amino acid racemization has had a tough time being accepted, but I was not using any of its data for the Yuha site. The 21,500 B.P. date has appeared in numerous articles and monographs."*

## WE'RE IN FOR LIFE

It is my pleasure to tell you that our Executive Committee voted to make *Desert Magazine* an honorary Life Member of the Living Desert Reserve. The magazine's name will go up on our Life Member's Plaque in the Admissions Office so all will know of the tremendous support you have given the Reserve through the articles in the past months of *Desert Magazine*.

Karen Sausman  
Executive Director

*Thanks, Karen, for the honor. Actually, your informative and entertaining monthly column (see page 50, this issue) has contributed equally to the success of our magazine which is why your name went up on our masthead some time ago.*

## HARQUA HALA HISTORY

Enjoyed your article (*Desert*, Feb. 1980) on the Harqua Hala mine. My father, John Martin, was one of the owners from 1906 until his death in 1920. The mine stayed in the Martin family until 1960 when it was quick-deeded to Fletcher Merrill. Our chimney, rock wall, and concrete steps are still standing.

Gladys Krens  
Arcadia, Calif.

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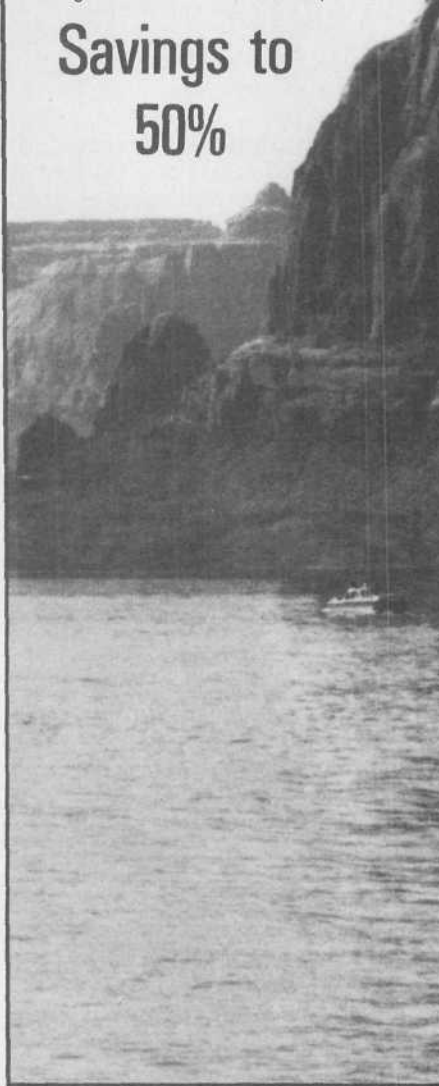


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## EDITORIAL

## PROTECT US FOR WE KNOW NOT

A COUPLE OF years ago I had occasion to teach a semester of journalism at Saddleback College in Mission Viejo and I struggled with the temptation to "lecture" my captive audience. In fact, that year's edition of the college's catalog billed me as a "lecturer" rather than any variation on professor, perhaps because my bachelor-level engineering degree was all but weightless on the liberal arts side of the campus.

It does, though, prove that one who lectures rates rather low on the academic scale so why, then, are scholars and writers involved with the desert so eager to hand out advice? For example, practically every unsolicited manuscript sent to us contains at least a paragraph, and usually more, telling whoever will read it, should it be printed, what he or she *cannot* or *should not* do. Instant experts, all, even though the postmark may indicate the contribution was mailed in from Brooklyn, New York.

I understand and empathize for as I mentioned, it is easier to lecture than to entertain and inform, separately or together. How much simpler it is to spread dark hints that your car might not make it up the infamous Yellow Grade to Cerro Gordo and certainly won't unless its radiator is freshly flushed than to research the actual inclination, report it, and let the reader decide for himself whether or not he and his equipment are in shape to try.

Since I as editor must read these manuscripts first to decide whether they cry for sharing with you, the reader, I get lectured at a lot. I'm told not to pick the wildflowers, to stay off of private property unless I have permission, to resist adding my graffiti to that left by the ancients on the walls of caves, to pack out my trash and leave that left by the 49'ers alone, and so on, ad nauseum.

I know these things, you know them, and those that don't know them are beyond our help because it is highly unlikely that they read *Desert Magazine*. And I also must

assume that the 85 percent of you who own RVs ranging from mopeds to Blazers, and who use them, know the basic etiquette of how to use them.

So, all of this brings me to the biggest offenders of all on the arid land lecture circuit. These are the communicators employed by the various land-holding agencies of our federal government, followed in almost a photo finish by the academic types engaged in government-funded research.

These communicators will send in what purports to be an informative magazine article and it does, indeed, contain a lot of facts presented in an entertaining manner. But tracing throughout is not too subtle justification for closing the area or attraction, or keeping it closed if it is so already, on the premise that you and I are not to be trusted loose therein.

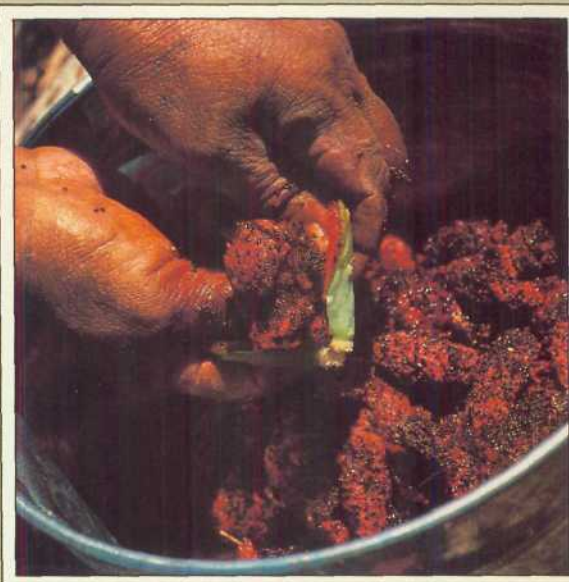
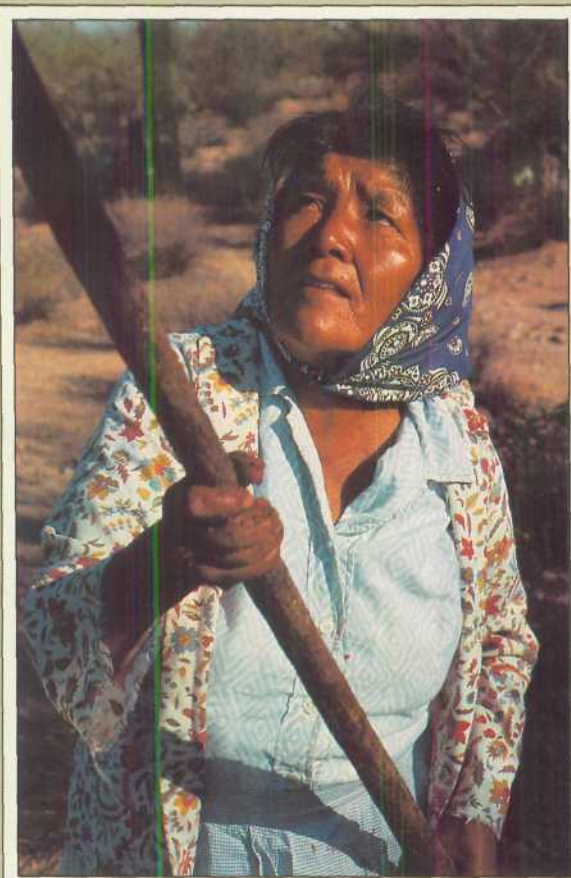
Tom Evans who wrote "The McCain Valley Pictographs" on page 42 of this issue is a BLM man, a nice guy, and a dedicated public servant. But his article when received was written around a message. The message was that BLM should be authorized to purchase the caves containing the pictographs so that the public may be kept from discovering them which, in turn, would permit research as to the origin of the pictographs to continue undisturbed. Disturbed by what? Vandalism, stated Tom, quoting the fears of the researcher.

I edited these fears from the article which stands on its own as readable, informed speculation as to the origin of these pictographs. Tom, in turn, did not disclose the exact location of the caves, now on private property, and I can't because I do not know it.

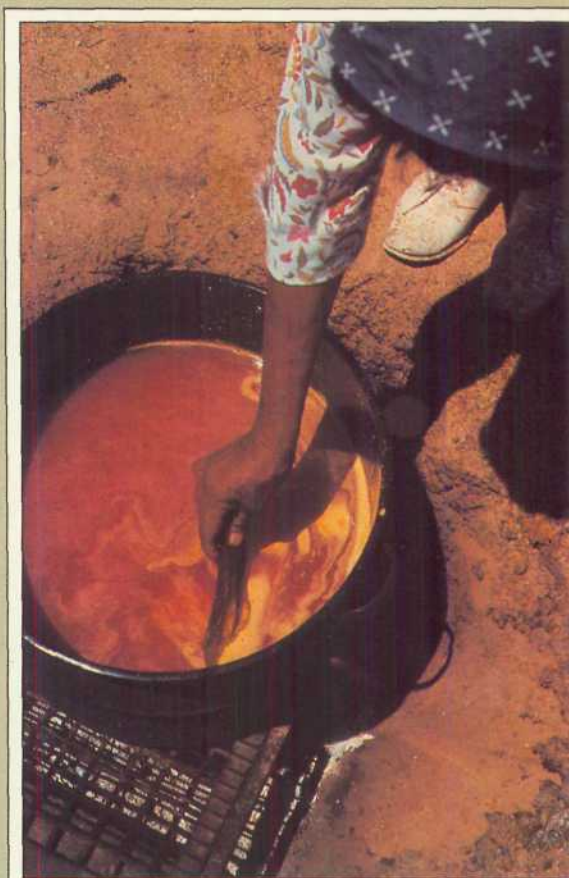
What an odd stalemate. Government allied with academia in protecting ancient graffiti from present-day cave artists. We, the public, may not get to see either, even though the caves will be bought in our name.

*Don Mac Donald*





*Papago women prepare wine for the nawai't by (clockwise from top left) hooking down ripe saguaro fruit, digging out the red pulp from the shell, boiling the fruit with water, and straining it through a mat of grass to remove seeds and pulp.*





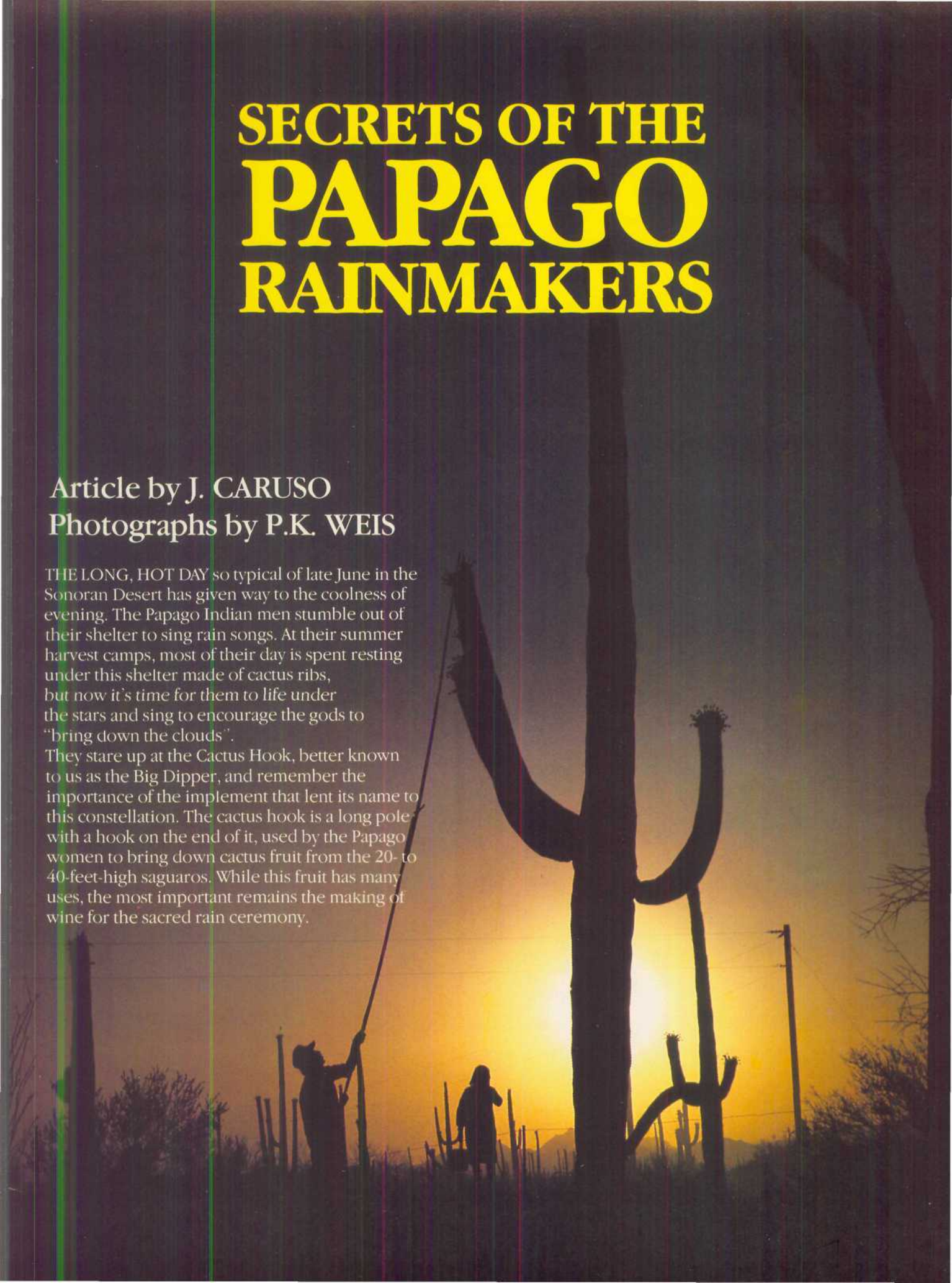
# SECRETS OF THE PAPAGO RAINMAKERS

Article by J. CARUSO

Photographs by P.K. WEIS

THE LONG, HOT DAY so typical of late June in the Sonoran Desert has given way to the coolness of evening. The Papago Indian men stumble out of their shelter to sing rain songs. At their summer harvest camps, most of their day is spent resting under this shelter made of cactus ribs, but now it's time for them to life under the stars and sing to encourage the gods to "bring down the clouds".

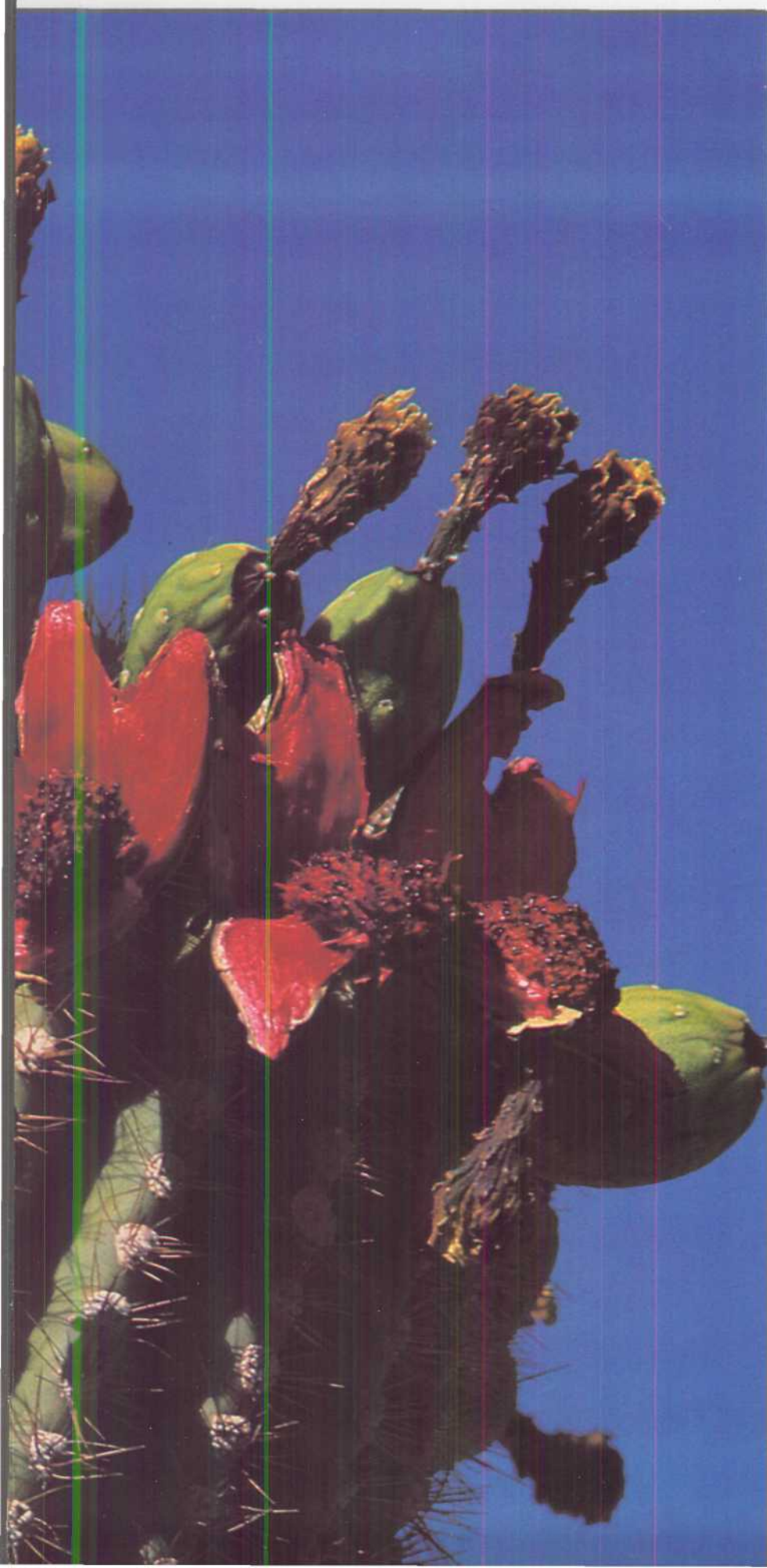
They stare up at the Cactus Hook, better known to us as the Big Dipper, and remember the importance of the implement that lent its name to this constellation. The cactus hook is a long pole with a hook on the end of it, used by the Papago women to bring down cactus fruit from the 20- to 40-foot-high saguaros. While this fruit has many uses, the most important remains the making of wine for the sacred rain ceremony.











**T**HE ARID, BARREN land of the Sonoran Desert in southern Arizona and northern Mexico is home to the Papago Indians. Harsh conditions make survival arduous, and only the most conditioned people could have existed here without water, canned goods or automobiles.

The conquistadores passed through this region in their quest for gold, and the missionaries that followed stayed just long enough to Catholicize the Papagos. Settlers, looking for land, found this area wholly devoid of interest. Unlike many of their Indian brothers, the Papagos never fought with the whites so they were allowed to stay on their homeland where they remain to this day.

Religion did help Papago adjustment to desert life. Thus, the majority of their ancient ceremonies once had specific meanings, but these are now lost beyond all memory. Yet, despite many of the old practices having disappeared, Papago ceremonial life continues to emphasize rain and health.

By early summer the waxy, white blossoms that have been adorning the top of every giant saguaro are gone, and the bright red saguaro fruit forms a new crown. It is this event that brings the Papago families to camps in the foothills to pick the cactus fruit and begin preparations

---

*The saguaro fruit usually grows near the top of the 20 to 40 foot-high saguaro after the flowers have died.*



for their most sacred ritual, the *nawai't* or wine ceremony.

This is the most important of all ceremonies because it "brings down the clouds" so that the Papagos may grow their corn, squash, and beans so necessary to their survival in times past. This event is so significant that the Papago year begins with the harvest of the saguaro fruit.

The women at their harvest camps spend the early morning hours hooking down the ripe fruit, digging out the red pulp from the shell, and placing it in their baskets. They take care to throw the skins down with the red side facing up to encourage rain. When the late morning sun gets hot, the women return to their camps and unload their full baskets of juicy pulp into the cooking pot. The fruit is boiled with water and then strained through a mat of grass or a loosely woven basket to remove the seeds and pulp.

Both are put to use. The oily seeds supply flour, grease, and chickenfeed, and after the pulp has dried, it can be stored as dried fruit. The remaining juice is boiled down to a syrup thick like blackstrap molasses, poured in *ollas*, and finally sealed with a piece of broken pottery covered with mud, or, among the more modern Papagos, sealed with tin. And again, in late afternoon, the women return to the cactus groves for a second gathering.

When every family has ample syrup, jam, and dried fruit, they return to their village where each family will donate four quarts of syrup to be made into wine for the sacred rain ceremony.

There are several legends as to the origin of the sacred rain ceremony. One of the most acceptable tells of a little boy who wanted to do something to make himself proud. He wandered off from his mother and became a saguaro cactus, promising he would always serve his people if they would take the cactus fruit to a special house, mash it, boil it to a syrup, strain it through a matting of grass, put it in an *ollas*, and seal it up. The young boy said that in return, the people must sing songs in a ceremony to bring rain. At that moment, he taught them the first of a hundred songs he was to give them. This first song was called, "I Draw The Rain."

While this origin is locally acceptable, it should also be noted that anthropologists think the Papagos descended from the mighty Aztec race of Mexico, and they too had a similar rain ceremony.

**T**HE WINE IS made in the ceremonial council structure located next to the chief's house. It is round and has only one opening, a door facing east. The ceremony must be performed in accordance with custom and tradition with the number, four, playing a significant role because the Papagos believe it has magical powers.

The participants in the ceremony include a leader who is called "He-Who-Desires-Liquor," the men who

mix the wine, one taster, four men who watch the *ollas* during the fermentation, four medicine men who sing rain songs and make speeches, and a number of other singers. There are usually sixteen of these because that enables them to sit at and between the four cardinal compass points (north, south, east, and west) during the distribution of the wine. A shallow hole is made at each of these cardinal points and the *ollas* are placed in them on a bed of straw during the period of fermentation.

The wine is made by adding one-half pint of syrup to a gallon or gallon and a half of cold water, and tradition calls for the men to mix this with their hands while offering a prayer for rain. Women are not allowed to do the stirring because it's believed that would make those who drank to do nothing but cry.

This five or six gallons of mixture is enough to fill four *ollas*. During its preparation, the mixers occasionally will give a cup of the liquor to an expert taster for evaluation. He tells them to add more water, or syrup, if he thinks the taste isn't just right. Then, when the mixture meets with his approval, it is poured into the *ollas* which have been placed at the four cardinal points and covered tightly. Just about when the midday sun bakes the desert, the door is closed and the mixture is allowed to sit for that night, the next day and night, and is considered ready to consume about nine o'clock the following morning.

A small fire of mesquite and ironwood is kept burning inside the council structure to provide the even warmth needed for the desired fermentation. Outside, another small fire burns in the middle of the dancing area. A large fire, it is believed, would frighten away the clouds.

Four men have the duty of watching the wine, two during the day and two at night. They watch the *ollas* carefully to make sure they don't crack and to insure that the wine rises up over the top four times. Due to the extreme heat in the lodge, these men spend most of their time lying down and singing songs. If songs are begun lying down, the men must sing four songs before rising.

The tiny pebbles inside the hollow gourds or rattles of the four medicine men can be heard as the chief singer cries out the first of sixteen repetitions of a rain song in which he is joined by the village men dancing and singing around the fire. When the women arrive dressed in their pink, blue, or crimson *mantillas*, they have their choice of partners and need not choose their husbands. A woman will part the hands of two men and take her place between them, joining in the singing and dancing ritual that will last until morning. They sing of clouds, wind, rain, and their crops and the medicine men wave their sacred eagle feathers, hoping they will gather moisture and drip because that means the rain will come soon. If they remain dry, the rain is still many days away.


## The wine ceremony is the most important of all because it "brings down the rain."

**A**FTER THE MEDICINE men announce that the wine is ready, they and the singers make speeches. To ensure an audience, messengers summon the other village men to come sit in a circle and listen to "mockingbird" admonition speeches, so named because the mockingbird is the most eloquent "speaker" of all the birds. The wine is then served ceremonially to each adult in prescribed order, bringing happiness and song to erase the evil and bad feeling of the past year.

Before the baskets of liquor are passed around, beautiful descriptions of rain and fruitfulness are recited. The better the description, the better will be the rain it brings.

The leader then comes forward and makes a speech of admonition, and invites the people to get beautifully drunk. Four cupbearers move around the circle offering the thick, dark-red wine to the villagers, saying: "Drink my friend. Grow beautifully drunk to bring the wind and the clouds here."

And since the liquor maintains its intoxicating effect for only a few hours, every drop must be consumed. The ceremony continues with more singing and speeches until there is no wine left.

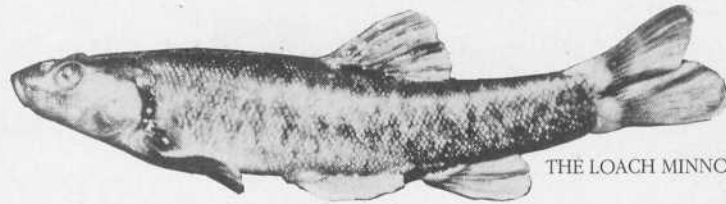
If all goes well and their gods look kindly upon the Papagos, lightning will appear and the desert wind will carry clouds from the east to the village. It is late July and the rains have begun. The circle around the council house breaks up and the people return happily to their homes. The old year is behind, and planting can now begin. 



Traveling in the desert tends to rejuvenate one's sense of drama, to rekindle slumbering powers of observation, and to make one again vulnerable to surprise in a world surfeited with startling things. The streams and lakes, springs and ponds of the America's arid lands teem with living things. Frogs, snakes, crayfish, clams, and insects abound, and, in pre-European days, villages of Indians here and there. But chiefly responsible for startling unwary visitors are the desert fishes.

# Lessons in Survival

Essay and Photographs by Branley Allan Branson



THE LOACH MINNOW.

**T**INY STREAMS THAT gurgle to the surface from ash-dry hillsides to flow but a few miles before vanishing again into the sand, which are obviously completely isolated from contact with any other permanent bodies of water, when investigated are often found to possess fish species quite unlike those found elsewhere. Isolated desert pools, rimmed with rushes and keeping council with no other waters, muddy rivers flowing into enclosed basins where dessication removes water nearly as fast as it arrives, and hot, algal-choaked marshes full of alkali, these are absolutely inhospitable desert conditions that seem to militate mightily against the survival of all living things. So, too, do tiny springs no more than six feet across, arks of life floating in a sea of desolation. All of those have their own peculiar fauna of fishes.

But where on earth did they come from, these dwellers of the desert? Obviously they have been here for a very long time for their distribution and population sizes, much as the old Puebloan Indian communities might have concentrated themselves in areas where survival was possible, are such that you have to take for granted that their ancestors were once more widespread, that they have been overwhelmed by enormous environmental changes. These fishes, it seems, ought not to have survived in this area of the world, but they did.

As succinctly put by Joseph Wood Krutch, "wondering about such things quickly makes ignorance cease to be pleasant." An agile mind demands explanation and fortunately, I was able to find surcease in the authoritative research of Hubbs and Miller on the evolution of southwestern waters. It was easy enough to understand how the Southwest at one time was a profoundly moister place, with interconnected waterways and enormous lakes filled by melting glaciers and increased rainfall. And I had no trouble understanding how long-term dessication gradually transformed the Southwest into a land of isolated waters, gradually eliminating connections between fish populations, exposing each population to the inroads of change at rates and modes that differed between populations, and resulting in the gradual creation of species scattered in widely separated places.

Desert fishes are survival experts, or they were until humans got into the business of changing the desert to suit their own fancies. Now, many of the species are facing extinction because of it. Some of them are minnows and suckers. Although the

desert fish fauna includes the famous pupfish like that at Devil's Hole in Death Valley, and topminnows and livebearers, the members of the minnow (*Cyprinidae*) and sucker (*Catostomidae*) families are the most widespread and abundant, almost as if the struggle of minnow against sucker served to facilitate spread.

**A**S WE LOOKED DOWN from a small bluff at Montezuma's Castle National Monument into the nearly dry streambed of a tiny creek, we saw a single pool protected thinly by a misshapen cottonwood tree. The water was only inches deep, clear as gin, and tepid as urine. In it, a foot-long and dark bluish-grey, patrolling the only part of the universe by definition of any real importance, was a solitary flannelmouth sucker (*Catostomus latipinnis*), its wide, pimply and flabby lips going over every inch of the bottom in search of a morsel of food. The tiny scales, streamlined body, and spindlelike posterior section hinted of its real habitat, flowing waters with strong currents, not the torpid confines of a desert pool.

You ask how desert fishes survive such vicissitudes long enough to maintain the obviously viable populations? During the frequent droughts when streams and ponds often nearly vanish, scattered individuals hole up in what water there is left while most of the population perishes. Obviously the survivors, males and females, draw closer together when the life-renewing rains re-expand their aquatic habitat long enough to permit reproduction. The flannelmouth, and there are other suckers that trace the desert waterways, is only one example of this kind of tenacious hold on life.

There is, then, no trouble in finding examples. A few years back, the Little Colorado spinedance (*Lepidomeda vittata*), originally found only in the north-flowing tributaries of, and upper main stream of, the Little Colorado River of Arizona, was thought to be nearly extinct. Its habitat waters had been reduced to a few scattered pools in the river because of ground-water pumping and irrigation diversions. We spent days searching for individuals, sometimes inching our way down into deep canyons, and succeeded in locating scattered males and females, too few, it seemed, to allow recovery of a healthy population. Yet, when the rains came and the streams resumed



flow, the few survivors were able to produce enough eggs to re-create the ancient populations, and could probably continue to do so indefinitely in the absence of human interference.

The Little Colorado spinedace is a handsome silvery minnow with sharp spines in its dorsal fin. The spines do not make it absolutely unique, for there are other spinedaces in the arid Southwest. Taken collectively, however, the spinedaces are unique, for no other American minnows have spines in their fins. All of them are considered to be threatened or endangered because of human modification of the desert habitat. The beautiful woundfin (*Plagopterus argentissimus*), with its reduced scales and mirror-bright coloration with red at the bases of the fins in breeding males, at one time was abundant throughout the lower Colorado River basin; now it is restricted to a few riffles in the Virgin River. *Meda fulgida*, the handsome Gila River spinedace, has nearly lost its scales, too, but it has retained its brilliant silver overwashed with gold. This little minnow, now restricted to some headwater riffles, was once widespread in the Gila River.

Other desert minnows are even worse off. The Moapa dace (*Moapa coriacea*), a two- to three-inch, scaleless species of deep olive coloration on the back, a white belly, and a golden-brown band along each side, is confined to a few tributaries of the liquid ribbon of mud Nevadans call the Moapa River. In that same habitat, unthinking persons have released aquarium fishes which compete for the minute quantities of food and space available, so much, in fact, that the dace is barely hanging on.

The relative though perhaps temporary comfort of the minute desert dace (*Eremichthys acros*) is food enough for contemplation. Barely two inches long, its jaws sheathed by cartilage enabling it to scrape algae from rocks for survival, this small minnow lives in a single spring at Soldier Creek, Nevada. The steam flows down a short hill and soon vanishes into the desert sands. The whole stream is owned by one man who is benevolent enough to allow the stream to continue its flow rather than diverting it for agricultural purposes.

It is not, however, only the minnows of minute springs which are adversely effected by human interference in the desert. The chiselmouth, *Acrocheilus alutaceus*, so-called because of tough, horny sheaths on their jaws, is a foot-long minnow trying to live in the Columbia River drainage in the hot parts of Washington, Oregon, Nevada, and British Columbia. Dams, silt derived from irrigation projects, water diversions, and the introduction of exotic fishes are all cooperating to steadily reduce the populations of this hotlands fish. The same thing is happening to many populations of the tui chub (*Gila bicolor*) in the same drainage as well as in the Sacramento River of California. The most severely damaged populations of the latter species are struggling for survival in parts of the Lahontan Basin of Nevada.

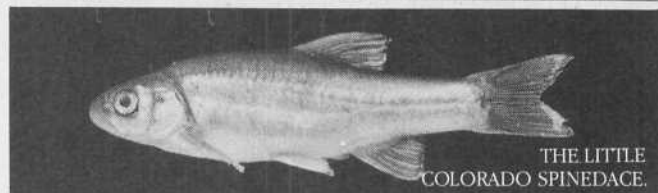
The dusky dace (*Rhinichthys osculus*), at one time very widespread in hotlands streams west of the Continental Divide, has seen its range steadily dwindle to the point where some races of the fish in Nevada are listed as critical. The largest minnow in North America, the Colorado squafish (*Ptychocheilus lucious*), victim of dams, and the longfin dace (*Agosia chrysogaster*) have also had their populations decimated in many desert streams.

**I**N MANY PLACES where fishes used to greet visitors there is nothing left but dry sand or mud-laden passages unfit for any fish or, perhaps, even men. These fishes are eloquent spokesmen for the desert where all forms of life must make do within the boundaries of their adversity. Nothing that lives here has more right to the desert than the fish, not the kangaroo rats, the yuccas, not even the Indians. They remind us all that nature is the grand designer, that she holds all the patents. It is fitting that the tiny fishes of the American deserts should instruct us in these matters for there is probably nothing in those hotlands more dependent upon water for continued existence.

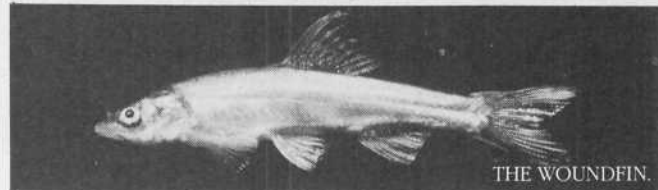
Unless it is man himself. **D**



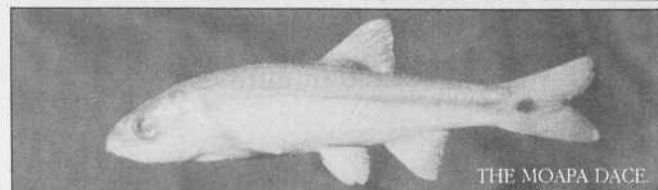
THE FLANNELMOUTH SUCKER.



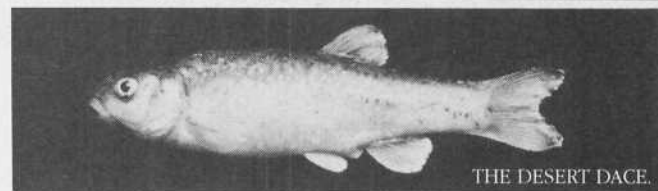
THE LITTLE COLORADO SPINEDACE.



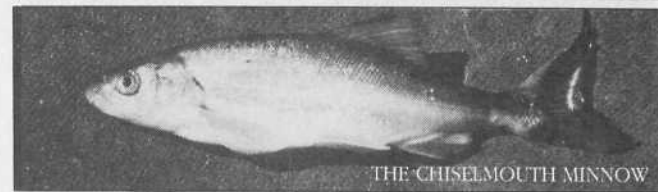
THE WOUNDFIN.



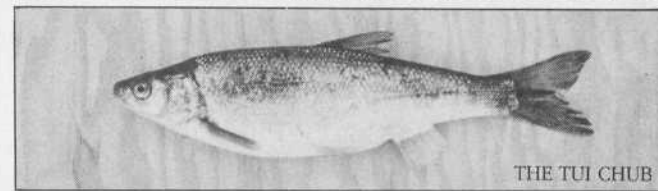
THE MOAPA DACE.



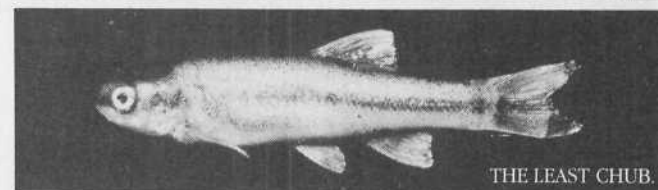
THE DESERT DACE.



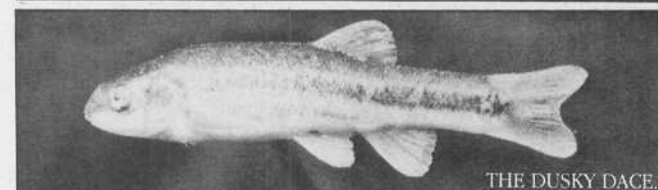
THE CHISELMOUTH MINNOW.



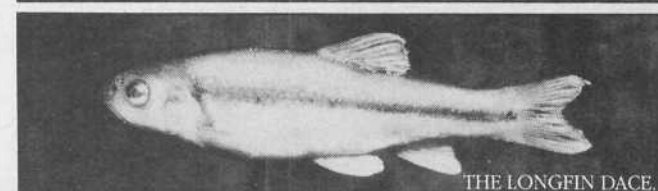
THE TUI CHUB.



THE LEAST CHUB.



THE DUSKY DACE.



THE LONGFIN DACE.



# A Second Sinaguan Masterpiece

# MONTEZUMA CASTLE

Article and Photographs by ELDON BARRETT

*Last month in DESERT, Betty Tucker-Bryan pictured and described the "Tall House," built by Sinagua Indians late in the 10th Century in the shadow of Sunset Crater, north of what is now Flagstaff, Arizona. South of Flagstaff at about the same time, another band of Sinaguas (meaning in Spanish "without water") built a much more complex pueblo known as Montezuma Castle.*

**H**ANGING UNDER the lip of a limestone escarpment in the heart of Arizona is a pueblo ruin called Montezuma Castle, a five-story, 20-room cliffside condominium that is certainly one of North America's oldest apartment houses.

Considered by archaeologists to be the best preserved of numerous cliff dwellings in the American Southwest, this ruin also is the most accessible, being only a mile down a surfaced road that leaves the Black Canyon Highway (I-17) just 85 miles north of Phoenix and 57 miles south of Flagstaff.

Perhaps half a million visitors stop each year to inspect the Castle and a limestone sink hole seven miles north which are the principal features of a national monument, one of ten in northern Arizona — including the Grand Canyon — under the jurisdiction of the National Park Service. The sink, 470 feet in diameter and 125 feet deep with its water level at 70 feet below the rim, is called Montezuma Well.

Using Montezuma's name for these places is absurd. Early white settlers or, perhaps, U.S. horse soldiers stationed at nearby Fort Verde during the Apache wars, mistakenly came up with the theory that Aztecs fleeing from Spanish conquistadores built the structures. Actually, the Castle was under construction when members of the snake-eating band that eventually became the mighty Aztec nation were still hiding out from their neighbors on islands in a lake called "Place of Mud." And even before Montezuma's forebears built those swampy islands into what is now Mexico City, the impressive edifice clinging to that Pliocene precipice overlooking Wet Beaver Creek was abandoned to a colony of long-eared bats.

**A**RCHAEOLOGISTS GAVE the name Sinagua to the mysterious people who erected Montezuma Castle seven or eight centuries ago. Those "without water" were hunters and dry-land farmers whose scant crops depended on what little rainfall sprinkled the

arid hills north and east of the Verde River Valley. In contrast, the bottomlands were occupied by an equally enigmatic people known in the Pima Indian tradition as the Hohokam, or "Those Who Have Gone." And the Hohokam were adept at the practice of irrigation, having laid down a network of canals in what is now the Phoenix area before migrating to the Verde basin.

When the Hohokam saw water flowing from an underground outlet from Montezuma Well into Wet Beaver Creek, they diverted it onto flatlands which they had cleared for the cultivation of maize, beans, squash, and cotton. It wasn't pure water; mineral sediments have "fossiled" the Hohokam ditches to this day.

Around 1070 the Hohokam migrated again, this time to the area around Flagstaff where the volcanic eruption of what is now called Sunset Crater had laid down a thick coating of water-conserving ash in 1065. In this land where every drop of moisture is precious, the grass on the other side of the Mogollon Rim looked greener than that in the Verde Valley.

And to the Sinagua almost any place was better than where they were, so they moved in when the Hohokam moved out.

The Sinagua took over the irrigation system and croplands and as a defensive action, they began building pueblos on hilltops and in cliff caves, using a craft they had picked up from their trading neighbors to the north. Until then, the Sinaguas, like the Hohokams, lived in clusters of one-room, pole-and-brush hogans.

**T**HE CASTLE WAS built on a prime site. The bottomland had been terraced for easy farming, the creek flowed bountifully, and the vale was easy to defend. Furthermore, huge salt deposits close by were available for trade as well as home consumption.

Built from the top down, the Castle's upper story is a natural cave divided into a large plaza and two

rooms, one of them quite roomy, and a parapet with a high wall. The cave, 33 feet deep, is 100 feet off the valley floor. The parapet extends over the three rooms of the fourth floor. The third story consists of seven rooms spread along the face of the cliff plus one that juts out over one of the three rooms of the second floor, which also has two connecting caves counted as rooms. The lower floor consists of two small chambers.

Long ladders, which could be drawn up for defense, provided access. Keyhole-shaped doorways helped keep out the cold as well as intruders. The ceilings were constructed by laying crosspieces over 12-inch-thick sycamore logs and then spreading a layer of brush and grass, topped by adobe mud — the wattle-and-daub technique used the world over.

The walls were chunks of limestone and river boulders laid in adobe mortar and 90 per cent of what the visitor sees today is original, the remainder being reinforcements provided by the park service.

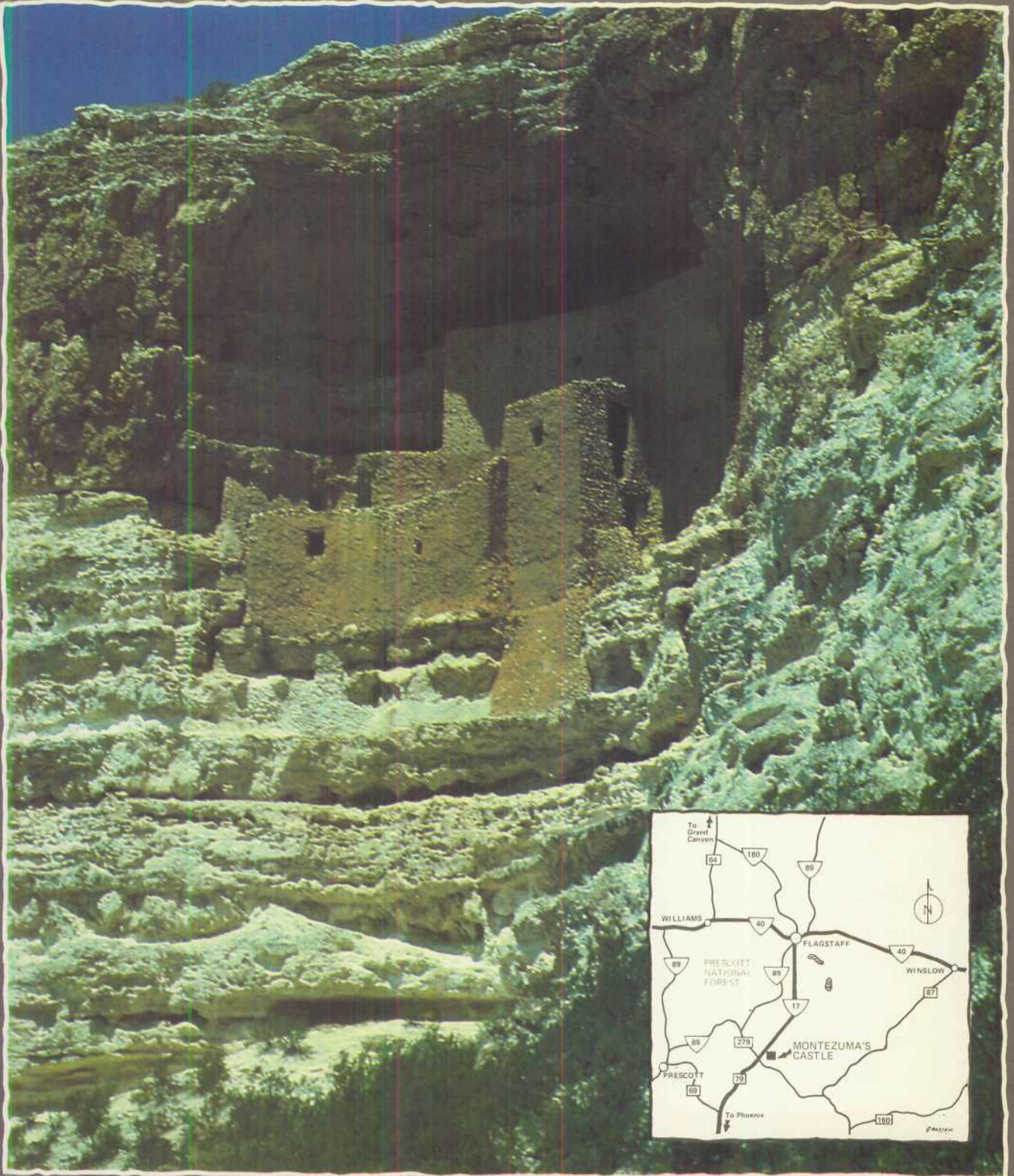
**A**S MANY AS 300 Indians may have occupied Montezuma Castle and a companion pueblo 100 yards to the west. The latter, known as "Castle A," was built against the base of the cliff. It had 45 rooms or more but was weakened by fire in the 1300s and collapsed into the pile of rubble over which tourists now walk to explore a few shallow caves and a burial chamber.

By 1450, Montezuma Castle apparently was abandoned. Most anthropologists believe the Sinagua moved north, perhaps assimilating with the Hopi whose current traditions suggest ancestral origins in the Verde Valley. The Hohokam left no trace, they truly are "Those Who Have Gone."

Access to the upper reaches of the Castle was closed to the public in 1951 to insure preservation of the Monument, but the view from below has lost none of its wonderment. Builders of today's fragile cliff houses could learn much from this ancient masterpiece of native architecture. **2**



Early white settlers mistakenly came up with the theory that Aztecs fleeing from Spanish Conquistadores built the structures.



*The Sinagua Indians moved from the valley floor to pueblos in the cliffs for protection against marauding tribes. Five-story, 20-room Montezuma Castle was built about 1100 and in use for 300 years.*



# Chaco Canyon

## *Halfway Between Nowhere*

*Traditional Kachina dolls (right) are carved from dead cottonwood root. Costumes are painted and pegs attach eyes, ears, nose, and horns. Huge kiva (far right) has been excavated and partially restored.*



*Seed jewelry (right) was used by Pueblo Indians as barter material for necessities such as salt.*



Story and Photographs  
by C.J. Burkhardt

**H**IGH IN A HOT August sky a soaring eagle wheels and dives. Blazing sunlight beats upon a parched land causing the horizon to dance and waver. Atop a craggy spire a brooding vulture stoically surveys his domain.

Swirling dust that builds into a long, thin line etches your path through the desert. You pass the lonely Blanco Trading Post, the only sign of civilization you've discovered since beginning your trek.

Halfway Between Nowhere is hidden deep within New Mexico's remote, northwestern plateau country. It's a relatively small canyon named Chaco.

To reach Chaco you travel 50 miles south from Farmington, New Mexico on State Routes 44 and 57 or north from Thoreau

the same distance on Route 57. Either scenic drive leads onto a high, flat mesa dotted with gaunt juniper trees.

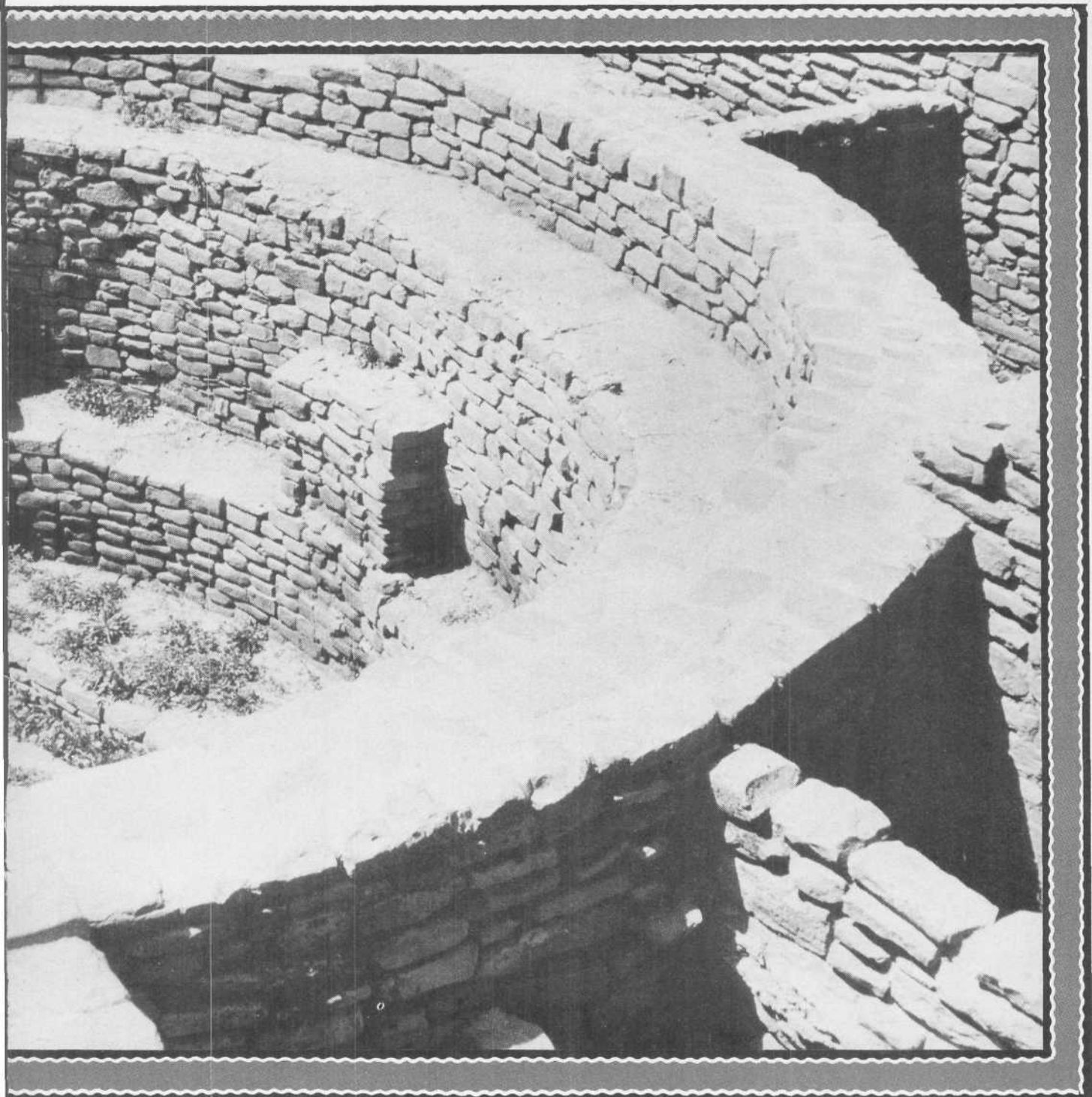
Many miles later a rocky, serpentine road leads you down to the Canyon floor. Here, saltbrush and greasewood flourish. Willows, cottonwoods and tamarisk (also known as salt-cedar) thrive, turning the

lower arroyos into inviting and green oases.

**A**T THE MONUMENT'S Visitor Center you will learn, among other interesting facts, that a group of Indians known as Basketmakers preceded by maybe 400 years the Chacoans (Pueblos) who in turn inhabited this land centuries before Columbus "discovered" it.

Today, four primary branches of these ancient people (Ute, Pueblo, Apache, Navajo) occupy this area, and evidence of this civilization's differing origins is apparent in the varied types of dwellings that have been unearthed. Innumerable pithouses, large crumbling ruins, and





myriad small communal houses, remnants of their once thriving civilization, have been discovered, while unknown numbers of structures still lie buried beneath the rubble of time.

Chaco Canyon offers superb examples of its original settlers' accomplishments. Certainly their achievements reached an apex during the 11th and 12th centuries. Known as Basketmakers because of their skill in fashioning both utilitarian and decorative baskets from yucca fibers, these early inhabitants were primarily farmers. They grew corn and squash, usually in the Canyon, where they could more readily control and utilize the rainfall.

Their meager fare was supplemented with wild plants, berries, nuts, and small

game, either caught by snares or hunted by the use of the then newly discovered bow and arrow.

The art of fashioning quality baskets of complex designs became quite advanced during the latter part of Chacoan era. It also was during this period that the art of cloth weaving was developed.

The introduction of pottery occurring around 500 A.D., profoundly affected their society. Prior to the discovery of pottery, Basketmakers used baskets exclusively to transport and store foodstuffs. Later they learned to fire crude pottery, making it waterproof and thereby elevating their culture one more step.

Basketmakers lived in pithouses. These structures consisted of rectangular or

circular pits, most being three feet deep but varying in other dimensions and usually built atop mesas. Walls lined with flat stones extended another two or three feet above ground level. Supported by upright poles, log beams covered with brush and mud formed the roofs.

Most pithouses contained a firepit and a ventilation system consisting of a floor-level opening and a hole in the roof. A crude ladder poked into this hole provided a means of entering and exiting for the occupants.

Chaco Canyon's Basketmakers were an enterprising group and as time passed, they eliminated old ways and ideas and replaced them with new and better concepts. About the middle of the 8th



Old Pima basket (right) of willow and devil's claw fiber was used in Peyote ceremonial dance. The crumbling walls and fallen roofs (far right) are all that remain of the "Beautiful Village."



century, this advancement brought an end to the area's Basketmaker period and introduced the Pueblo culture.

**M**ORE THAN A dozen large pueblo ruins are sprinkled along an eight-mile stretch of Chaco Canyon. Within the Monument's 32 square miles, hundreds of small villages are tucked into a maze of secluded glens and arroyos.

During its heyday, about the 11th and 12th centuries, Chaco Canyon and the surrounding region was certainly the largest single concentration of Indians in the prehistoric American Southwest. More than 6,000 Pueblos occupied the Canyon.

*Kivas* (KEY-vas), a word of Hopi derivation, are sacred, ceremonial, assembly and lounging chambers that evolved from pithouses. Archaeologists have unearthed many *kivas* of similar design, indicating the tradition has been carried throughout endless ages with little change.

Chaco Canyon's Pueblo Indians belonged to the Kachina cult which has been and still remains an integral part of Pueblo society. Kachina, pronounced and spelled in various ways in different pueblos, is a name of Keresan origin. Evidence indicates that the Keresan people, undoubtedly related to ancient Asians and forerunners of the Pueblos, inhabited southwestern North America for unknown ages.

Legend dictates that Kachinas were spirit rainmakers who brought gifts to the Pueblos, taught them how to hunt and develop their skills in arts and crafts and when rain was required, danced in their fields.

For reasons lost to antiquity a fierce conflict erupted and the Kachinas vowed never to return. Before leaving, however, they did grant the people permission to wear sacred masks and appropriate costumes and to represent them. If the representation was acceptable, the spirits

would possess the dancer and bring rain. Thus came the beginning of the Kachina dancers and later, dolls.

During late spring, summer, and early fall, dances are held to persuade these spirits to visit villages where they may dance, sing, and bear gifts, but the hope is that they'll bring rain and a bountiful harvest.

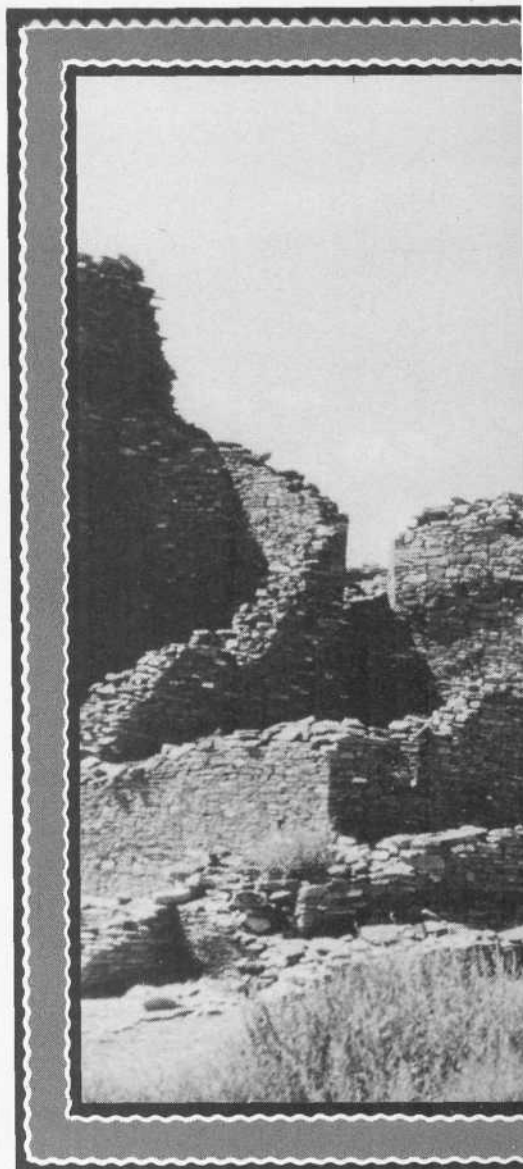
The Pueblos have a wide variety of dances, passed down through many generations, that for various reasons are held throughout the year. One most frequently seen is the *Tablita*, or Corn Dance. Since corn was the Pueblos' prime food, it has occupied a conspicuous place in their lives. This dramatic dance, sometimes lasting five days, is executed in *kivas*. At the conclusion of this purification ceremony a public performance is held. Corn Dances relate to germination, maturation, and harvesting so they are held during summer months.

Known by various names such as Deer, Buffalo, and Antelope, the Animal Dances portray the relationship between large game animals and man. Held during winter months, the dances, again brought down through the centuries, portray the significance of animals as a food supply.

Also of great importance are the symbolic Eagle Dances. Usually performed in the spring, they characterize the affiliation between man and the eagle who supposedly has direct contact with the heavenly omnipotence.

Of all dances the Basket Dance is one of the most meaningful and attractive. Food baskets used in the performance are representative of what they contain, which is seeds to be planted, thereby ensuring an abundant food supply for life's perpetuation.

Numerous other dances occur throughout the year. On Easter, Christmas, and New Year's Day, and for three days thereafter, many distinctive dances are performed. Turtle, Bull, Snake, Sundown, Hoop, Dog, Crow, Pine, and War and Peace



Dances are a few of the more commonplace.

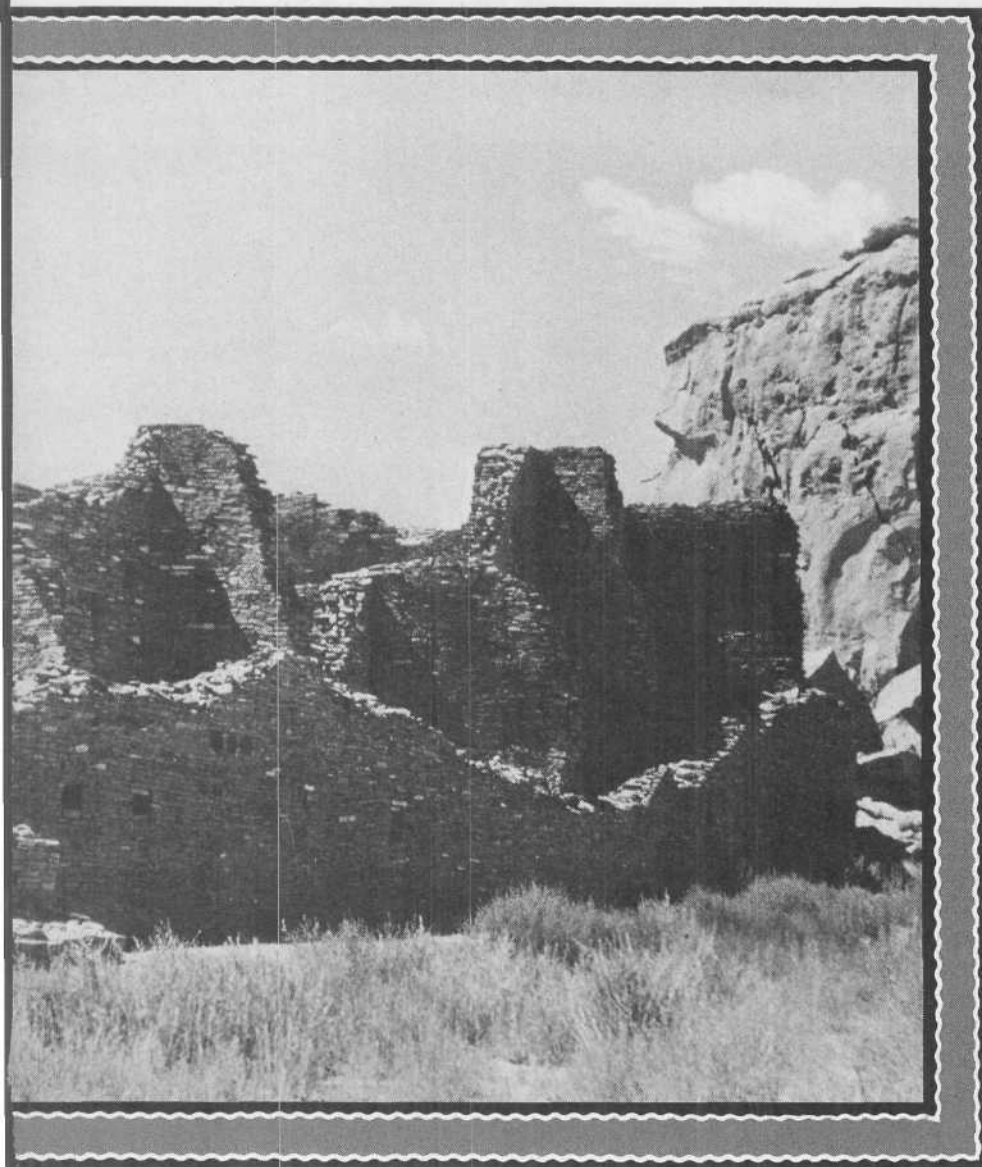
**A**S YOU CONTINUE your exploration of Chaco Canyon's lesser ruins, you will discover much more. Standing in crumbling majesty, Pueblo Bonito (Spanish for Beautiful Village and called "Place-of-the-Braced-Up-Cliff" by the Navajo), is the Canyon's showpiece.

As you walk beneath superbly fashioned walls, proportionately tapered from bottom to top, you'll wonder at the endless hours once spent meticulously shaping and placing countless blocks of stone. These seemingly indestructible and beautiful walls are an example of remarkable engineering skill.

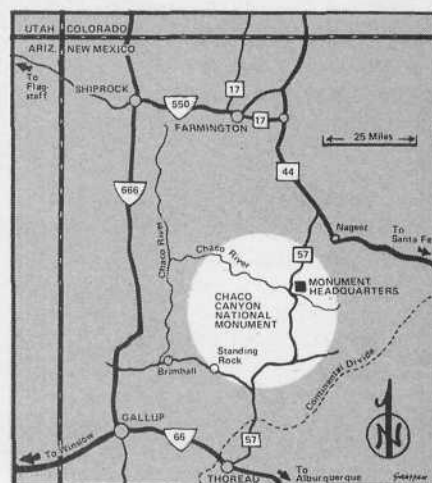
The Chacoans' selection of this particular building site will make you question whether they were supremely confident or a bit foolhardy. Scrawny sticks were used in an attempt to prop up a tremendous slab of rock poised menacingly above their village.

From 1921 to 1927, seven National Geographic expeditions under the direction of Neil Judd, curator of American





***Chaco Canyon was the largest single concentration of Indians in the prehistoric American Southwest.***



archaeology at the U.S. National Museum, removed 100,000 tons of rubble that covered Bonito Pueblo.

The excavation revealed the highest example of architecture ever attained during the Pueblo era. And this superior work is believed to have been accomplished by the village women in between all their other chores.

The village was constructed in the shape of a gigantic capital "D." Portions of the round side nearest the cliff contained five different levels and rose to a height of 40 feet.

Marauding tribes of hostile Indians created conditions that dictated strong defensive positions. Archaeological evidence reveals that during the 16th century, Navajos of Athabascan ancestry moved southward. When they reached the land of the Pueblos, the *Dineh* as they called themselves, ravaged the villages. Undoubtedly this was a principal reason why many Pueblos retreated from the productive lowlands to high mesas which were more easily defended.

Apparently the Chacoans were determined to stay in their canyon, but eventually it became necessary to block all

outside windows and doorways until their pueblos assumed the character of fortresses.

Pueblo Bonito's complexity is evident in the maze of dark rooms and dank passageways. This remarkable apartment house (actually the largest in the U.S. until 1882) contained 800 rooms, housed more than 1,200 people, and sprawled over a three-acre tract.


Lack of privacy due to the addition of many rooms created problems. Clamboring through one, two or three neighboring living quarters to reach one's own isolated accommodations did not produce friendly relations. Whether the dilemma was solved through mutual arbitration or by other, more forceful means has never been established but it was certainly instrumental in the abandonment of numerous rooms.

North of the ruins a steep trail climbs a rocky cliff to reveal a panoramic view of the entire pueblo. Far below within the crumbling walls, two plazas that contain 32 *kivas* are outlined. Decay has destroyed the roofs but from high upon the cliff, the *kivas'* circular openings seem to stare skyward with dark, unblinking eyes.

Various factors led to the Chacoan's exodus. Raiding Indian tribes and worn-out soil were partially responsible, but the principal reason was the disastrous Great Drought.

For 23 consecutive years, from 1276 to 1299, a choking drought clutched this once fertile land. Its unyielding force brought the once proud Chaco Pueblo to the brink of oblivion and caused many Chacoans to migrate southward and settle in the Rio Grande and Zuni areas. Here the water problem was much less acute.

Nature compelled this band of resolute Indians to surrender their Pueblo and banished them to distant lands. And once they had left, she quickly reclaimed her own.

But fortunately the village was not forever lost. Sleeping peacefully, Pueblo Bonito remained undisturbed for more than six centuries until it was awakened by the white man's picks and shovels. His excavation exposed Pueblo Bonito's past elegance and present splendor. The walls have crumbled and the roofs have fallen but nothing can destroy this ancient city's classic dignity. It remains a "Beautiful Village." 



# A DESERT MYSTERY

*Who found John D. Lee's gold cache? Someone did, but I don't know who. After dozens of experienced prospectors made hundreds of searches, how did an apparently inexperienced greenhorn go right to it? Did he have a copy of Lee's secret map or waybill? If so, where did he get it? Did he find only the cache, or did he locate one of Lee's lost mines also, for many believe the cache was hidden at one of his mines. But even more important, is there more of Lee's lost gold yet to be found?*



**Many prospectors have come to Lee's Ferry.**

**by George Thompson**

**A**FTER MORE than a century of mystery, pieces of the puzzle are falling into place and some of the questions about Lee's lost mines and treasure are finally being answered. But the answers only raise more questions, for the desert still guards its secrets well.

To understand recently uncovered information about this century-old mystery, it is necessary to go back to 1857 when 121 innocent desert travelers were ambushed and murdered at Mountain Meadows, near the edge of southern Utah's Escalante Desert.

There is no need to repeat those grisly details here; it is enough to say that John D. Lee alone of all the fanatics who planned and perpetrated that terrible crime was indicted, sentenced, and executed for the murders committed at Mountain Meadows in 1857, but not until twenty years after they occurred.

After the massacre, Lee, like the others involved, went into hiding to avoid lawmen who constantly dogged his trail. He found a safe haven in the heart of the desert at what he called Lonely Dell, the place desert travelers now know as Lee's Ferry. Located where Paria Canyon meets the Colorado River in the depths of Marble Canyon, where visitors were almost non-existent, and hundreds of miles from the nearest U.S. Marshal's office, it was a perfect hideout, although as Lee said, a lonely one.

Lee's only responsibility was ferrying infrequent travelers across the otherwise impassible Colorado and supplying his large family with food from his canyon-bottom gardens. He had lots of time to explore the unknown canyon and to prospect its thousands of dead-end draws and countless gulches. And during those lonely years he discovered at least two rich mines, one of silver and another of gold. But most intriguing to treasure hunters has been the cache of seven cans of gold nuggets he is known to have

hidden somewhere in the canyon.

Desert prospectors have searched for Lee's lost treasure for a long time now, and in recent months tales told by knowledgeable desert denizens hint that his silver mine has been found. Some say that rich ore is quietly being spirited out of what is now a national monument, where mining is forbidden, and secretly sold to Utah ore buyers.

But treasure hunters still search for the seven cans of gold Lee hid in the canyon. They have probed the canyon depths ever since Lee was executed in 1877, but I think it's safe to say that they can quit looking for *I'm sure his cache is gone!* It was found more than 70 years ago, and this is how it happened.

**J**OHAN D. LEE never spent an easy minute after that terrible day at Mountain Meadows in September, 1857. He had 18 wives and families to take care of at Harmony, Panguitch, and other small isolated hamlets in southern Utah but as a hunted man, he had little time to spend with them. Instead, Lee lived most of the 20 years he spent in hiding with his wife Emma at Lonely Dell, a god-forsaken acre of sand and red rock at the only place where the wild Colorado could be ferried between Utah and Arizona.

Except for an occasional desert prospector or some outlaw or wanted man like himself, few travellers used his ferry. Lee had lots of time to explore and prospect the great canyon — twenty years of time. That he found both gold and silver in the canyon depths is certain, for many saw the silver ore and gold nuggets he brought back to Lonely Dell. And a few met him in the canyons, leading a pack mule, often heavily laden with rich ore.

Lee was a secretive man and took few into his confidence. But one he did confide in was Robert Hilderbrand, a 15-year-old

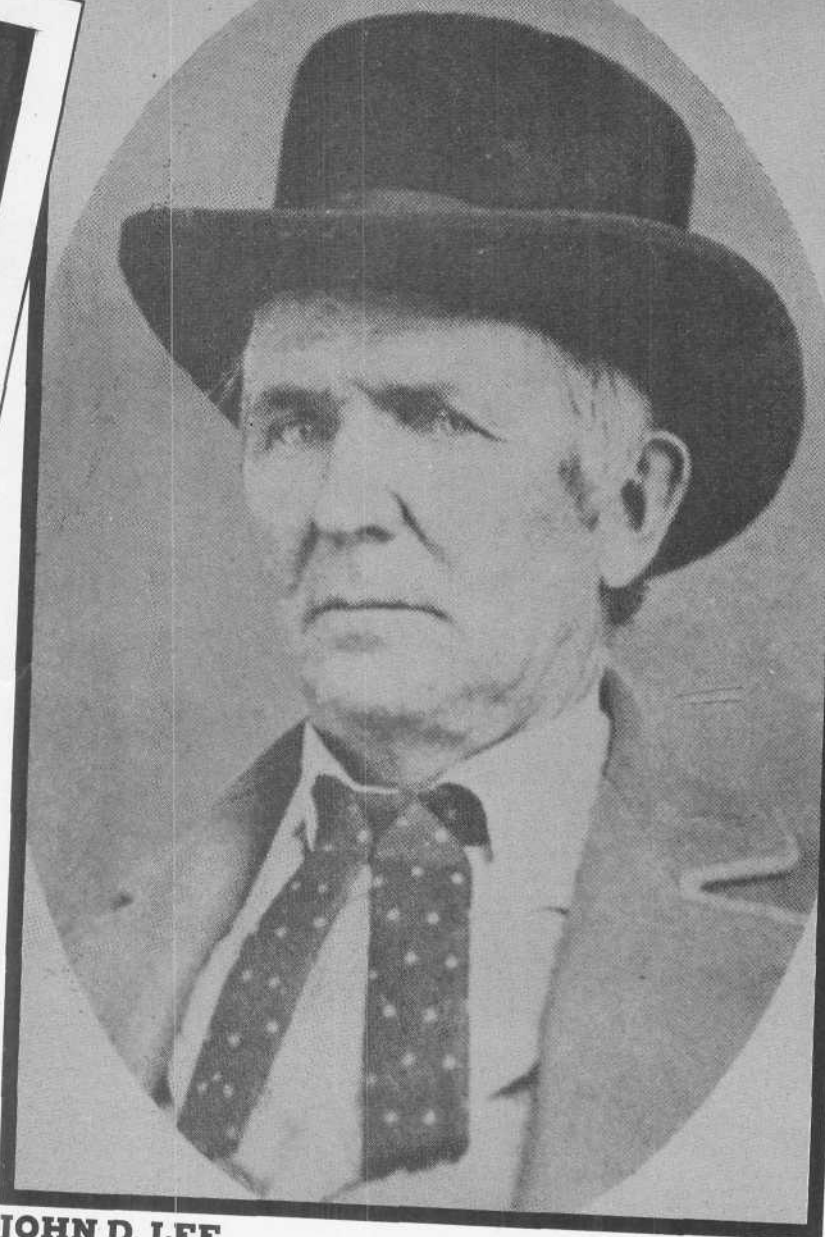
homeless boy who Lee befriended and took into his home at Lonely Dell. In later years, after Lee had been executed, Hilderbrand told a few of those who searched for Lee's mines that he occasionally had accompanied Lee down river for some 12 or 15 miles to near Soap Creek, at a place where there was grass for the horses and where he would make camp while Lee went on alone. It would be two or three days before Lee returned but when he did, he would be carrying a heavy pack of gold nuggets packed in empty cans.

There are several important points to remember about Hilderbrand's story: they went downstream, to near Soap Creek; they returned with gold, not silver; and Lee packed it in cans. The word "cans" is in itself a puzzle, for there were few cans in those days.

Also important is Hilderbrand's description of Lee's gold. Hilderbrand said it was rough, appearing to have been broken from lava rock, and was not placer or river gold. Also note that Lee would be gone for only a few days, certainly not long enough to dig the gold from a rock formation. Of course he could have dug it out earlier and cached it, but why would it have taken several days to recover a cache? Wherever he got his gold, apparently it was easily obtained.

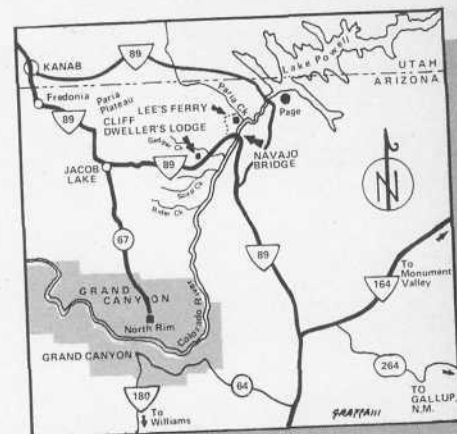
Another who sometimes saw Lee in the canyons, and perhaps spied on him, was John Hance, a prospector who was in the canyons even before Lee and who prospected there on and off for all of his life. Hance later said that he met or saw Lee on several occasions, but that each time it was far downstream from the ferry, perhaps 60 or 70 miles, near the canyon of the Little Colorado, and that Lee was carrying silver ore, not gold. So it seems that Lee's treasure came from at least two different places, the gold from near Soap Creek, not far below the ferry, and his silver from much further downstream,





**JOHN D. LEE**

# Seven Cans of Gold



from somewhere in the Little Colorado country.

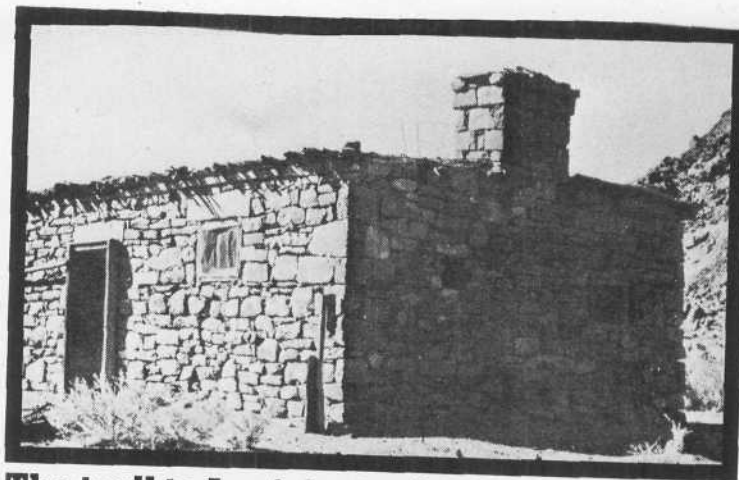
Along canyon trails several pieces of nearly pure gold ore have been found, in places where there is no sign of mineralization and with no indication of their origin. Finders believe they are pieces of ore Lee lost from his packs. In 1885 two prospectors found a skeleton of an unidentified man and a horse, the pair apparently having fallen from a ledge high above. In rotting saddle bags they found \$10,000 in gold nuggets!

John D. Lee was arrested at Panguitch, Utah on November 7th, 1874 while visiting one of his wives. He was held at old Fort Cameron near Beaver until he was taken to the state penitentiary at Salt Lake City in August, 1875. He was returned to Fort Cameron for trial in September, 1876 and found guilty of the Mountain Meadow murders on September 20, 1876.

**O**VER THE YEARS many searched for Lee's gold. In the records of Warren Johnson, Lee's successor at the ferry, is the following: "Also using the ferry are many unknown miners, sometimes one alone with only a burro, and sometimes two or three together with a pack animal between them. That they remain anonymous may only mean that they are not brethren, though it might also mean that they have good reason not to want to have their names known."

One of the anonymous ones who searched for Lee's lost treasure, and one who had every reason to know that it existed, was Ike Brown. Brown made at least two searches, one while Lee was in prison and another after he was executed, and it is important to remember that Brown said he was looking specifically for seven cans of gold, not for a mine, and that he searched downstream in the Badger Creek-Soap Creek area. It is even more important to know that Brown was really





**The trail to Lee's lost gold begins here.**

Issac C. Haight, a close confidant of Lee and one of the men who actually planned the Mountain Meadows massacre!

Haight knew that Lee had drawn a map for Emma, showing where seven cans of gold were buried, but Emma refused to give the map to him. With Haight were two brothers, Sam and Bill Bass, and years later, in 1883, after she had despaired of ever finding the gold, Emma gave a rough-drawn copy of the map to Bill Bass. Sometime after that Bass apparently made a half-hearted search, but maybe he didn't know the canyon lands well enough or perhaps he was too old by then, for he came back empty handed.

The map copy given to Bass, as well as another copy given to a prospector named McCormick were no doubt copies of maps Lee referred to in his journal when he wrote: "Just finished two exploring and prospecting trips, keeping a careful record, and making maps and waybills." The word "waybill" usually refers to a treasure map!

Only a year after Lee was executed Emma married again, to Franklin French, a miner from Grass Valley, California. French and Emma left the ferry and moved to Winslow, Arizona. And not long before Lee was arrested, he and Hilderbrand went on a prospecting trip and on their return to Lonely Dell, Lee cached a sack of ore and several cans of gold nuggets under Emma's bed. After French and Emma were married, French took the ore and nuggets with him and according to Hilderbrand, French sold the nuggets for \$7,000!

From the time Lee was executed, refusing to the end to implicate any of his brethren in the massacre at Mountain Meadows or to reveal even the slightest clue to the source of his gold or silver, treasure hunters have searched in vain. No doubt Lee believed that the map he gave to Emma would lead her to his gold, but neither she nor any of the close friends to whom she gave copies found a single nugget by using them.

For a century and more Lee's lost treasure has been a mystery. In 1919 the canyonlands of Grand Canyon became a national monument and from then on, mining was closely controlled. In recent

years mining has been completely banned in the canyons. Still, desert-wise prospectors around Kanab and St. George tell tales of secret shipments of rich ore being moved across the state line from Arizona to custom smelters in Utah. However, though nothing more can be said about that at this time, the story of how Lee's gold cache was found can at last be told — at least almost all of it, for we will probably never know for sure who found it. The story begins more than 70 years ago:

**B**ACK AT THE turn of the century, Rowland Rider was a young cowboy working for the Bar Z outfit in the House Rock Valley south of Kanab, Utah. For nearly 20 years he rode the lonely trails from the coral pink sand dunes, through the Kaibab Forest to the Grand Canyon, and down to Lee's Ferry. He often spent months alone, but one lonely night in 1909 as Rider was sitting by his little campfire at Jacob's Lake, he heard someone approaching him from the darkness.

Rider told me how a lone prospector, the first real one he ever saw, led a pack mule into the firelight. Anxious for company, Rider welcomed his unexpected guest and rustled him some supper. The following morning he pointed out the way to Lee's Ferry, the prospector's stated destination.

That day Rider worked his cattle and made camp again at the same place. And that night he again heard someone approaching his camp. To his great surprise it was the same prospector, walking into his camp again from the same direction he had come the night before. And the prospector was amazed to see Rider again, asking Rider how he had been able to get ahead of him and make camp without being seen.

It took Rider some time to convince the prospector that he was at the same camp. The following morning Rider showed the prospector how he had travelled in a great circle without realizing it. Only then did the prospector admit that he was lost. That day, Rider rode far enough with him to point out the trail to Lee's Ferry.

About a week later Rider rode to Lee's Ferry and learned that the prospector hadn't arrived there. A few days later Rider came on the prospector's tracks, going along the rimrock southwards towards Soap Creek. Rider followed the prospector's trail and finally found his mule, apparently well cared for with both feed and water. He found no trace of the prospector, except for his tracks going over the canyon rim and down into Soap Creek Canyon. The tracks indicated that the prospector had carried water from the canyon up to his mule and although such a procedure seemed strange to Rider, he felt the prospector must be alright and never investigated further. Besides, he had a herd of cattle to take care of.

Several days afterwards while Rider was camped at House Rock Valley he met the mysterious prospector again. Once more he walked into Rider's camp and stayed overnight, only this time he wasn't lost. He appeared to have found his bearings and knew exactly where he had been, as though remembering landmarks from a long time before. After 70 years, Rider recalled that their conversation went something like this.

"I thought you were going to Lee's Ferry?" The prospector replied, "I guess I got side-tracked," and as he talked he opened his saddlebags and emptied out seven tightly-packed Bull Durham bags. "Hold out your hands" he told Rider, and Rider, sitting by the campfire cupped his hands together as the prospector dropped one of the bags into them. Rider said the sack was so heavy that it forced his hands to the ground. "I thought he had lead in it!", he recalled.

"Would you like to see something pretty classy?" the prospector then asked, and untied the bags, revealing glittering gold in every one. "Where did it come from?" Rider asked, and the prospector answered: "Down there, near where Soap Creek goes into the Colorado."

Remember, that's where Hilderbrand said he went with Lee, when they brought back gold in cans and hid it under Emma's bed. And don't forget, that's also where Haight, alias Brown, searched specifically



**The execution of Lee (third from left) on March 23, 1877.**

for seven cans of gold!

Rider said he never saw the prospector again after that night back in 1909 but he knows the latter left the country by way of Pipe Springs, which seemed to indicate he knew which way water could be found. Later Rider talked to a rancher named Eaton who was at Pipe Springs and Eaton said the prospector stopped there for water, but he didn't stop to talk to anyone.

It's pretty obvious that Rider's prospector friend found Lee's seven cans of gold. No doubt the cans had rusted away, but the prospector had put the nuggets from them into seven Bull Durham sacks. There's no doubt that it was Lee's gold, because Rider described it the same as had Hilderbrand. Rider said the gold was about the size of grains of wheat or kernels of corn, in all sizes and shapes, and that the nuggets were rough and sharp edged. Rider added that he was sure it wasn't placer gold, for none of the nuggets were smooth or waterworn.

But the most convincing thing about Rider's story as he told it to me in 1980 was that he had never even heard of John D. Lee's lost mines or of his gold cache. Rider left Kanab and moved to Cedar City to attend school in 1910 and later moved to northern Utah. He knew nothing whatever about Lee's mines or caches. When he told the story about the prospector and the seven bags of gold, he was only telling one of many experiences he had as a young cowboy around Lee's Ferry, but his story fills in the missing pieces in the puzzle of why no one ever found Lee's cache. Mr. Rider has just published a book about his cowboy experiences in which you can read about the seven bags of gold. It is called "Sixshooters and Sagebrush," and is available from the B.Y.U. Press, Provo, Utah.

It also seems pretty obvious that either the prospector wasn't very experienced, or else he hadn't seen the canyon country for a long time, since he got lost in fairly open country. Also, he seemed to know the

country once he saw it, even if he was confused for awhile. Is it possible he had a map and if so, where did he get it? Remember, Emma Lee gave copies of Lee's map to French, Bill Bass, to McCormick, and possibly to others. Could the prospector have been a son or family member of one of them? Or could he have been Hilderbrand himself? Remember, Hilderbrand was only about 15 years old when he went to Soap Creek with Lee, so he would have been about age 50 in 1909.

Of course we'll never know, but the odds are about a million to one against anyone ever finding the seven cans of gold by chance. The prospector, whoever he was, had to know what he was looking for, and where to look. Could he have mined or panned the gold he showed to Rider? No way. He was only in Soap Creek Canyon for a few days, a week at the most. It's pretty big country, a regular maze of side canyons, gulchs, cliffs, and ledges. Even if someone knew exactly where to look, it would take several days just coming and going and to climb down in the canyon and back out again. The prospector certainly had no time to work a mine, but he did have time to find and dig up a cache, at least if he knew just about where to look.

**T**HE BIG QUESTION for today's treasure hunter isn't so much that Lee's cache has been found, but where did he get the gold he cached? And is there more where it came from?

We know that Lee sold gold in small amounts over a long period of time, and that he sometimes brought out more than he actually needed. Remember, the \$7,000 worth of nuggets he hid under Emma's bed, and remember also that Hilderbrand said that Lee would be gone for only a day or two, certainly not long enough to do any extensive mining. The kernel-size nuggets were not placer gold for both Hilderbrand and Rider said they were sharp edged and rough, and looked as though they came from lava rock. Could Lee have picked them up from where they had weathered out of some rotten ledge? If so, there could

be a real bonanza there now, for the ledge has been pummeled by the elements for more than 100 years since Lee was there last!

An important point for today's treasure hunter to remember is that wherever Lee got his gold and silver, those places are now part of the Glen Canyon-Grand Canyon National Monument, where mining claims cannot be located. Any gold removed from the canyon would have to be done covertly, like the silver ore that is now being secretly packed out across the river into Utah. I'm not suggesting that anyone break the law but if you should be hiking down in Soap Creek Canyon, and just by accident come across a ledge of rotten lava rock where kernel-size nuggets of gold glisten in the sun, why I don't believe anyone would blame you for taking a few pockets-full!

The Lee's Ferry country hasn't changed much in 100 years. Only a mile or so either side of the few roads which penetrate it, the same harsh desert and near-bottomless canyons still present the same mysteries and dangers. Hardly a year passes that the body of some hiker or prospector isn't found in some nameless gulch. And some are never found. Locate Lee's Ferry on our map, just northeast of the Marble Canyon Bridge, and you'll see Soap Creek coming in from the south, about 12 miles downstream. For serious prospecting you'll want the Marble Canyon topo map, available where topos are sold for only \$2.

Soap Creek Canyon is a big place, so don't expect to find Lee's lost ledge on a weekend trip. Search near the canyon bottom for that's where Hilderbrand was left to watch the horses, and that's where the prospector told Rider he found the gold, "Down there, near where Soap Creek goes in the Colorado!"

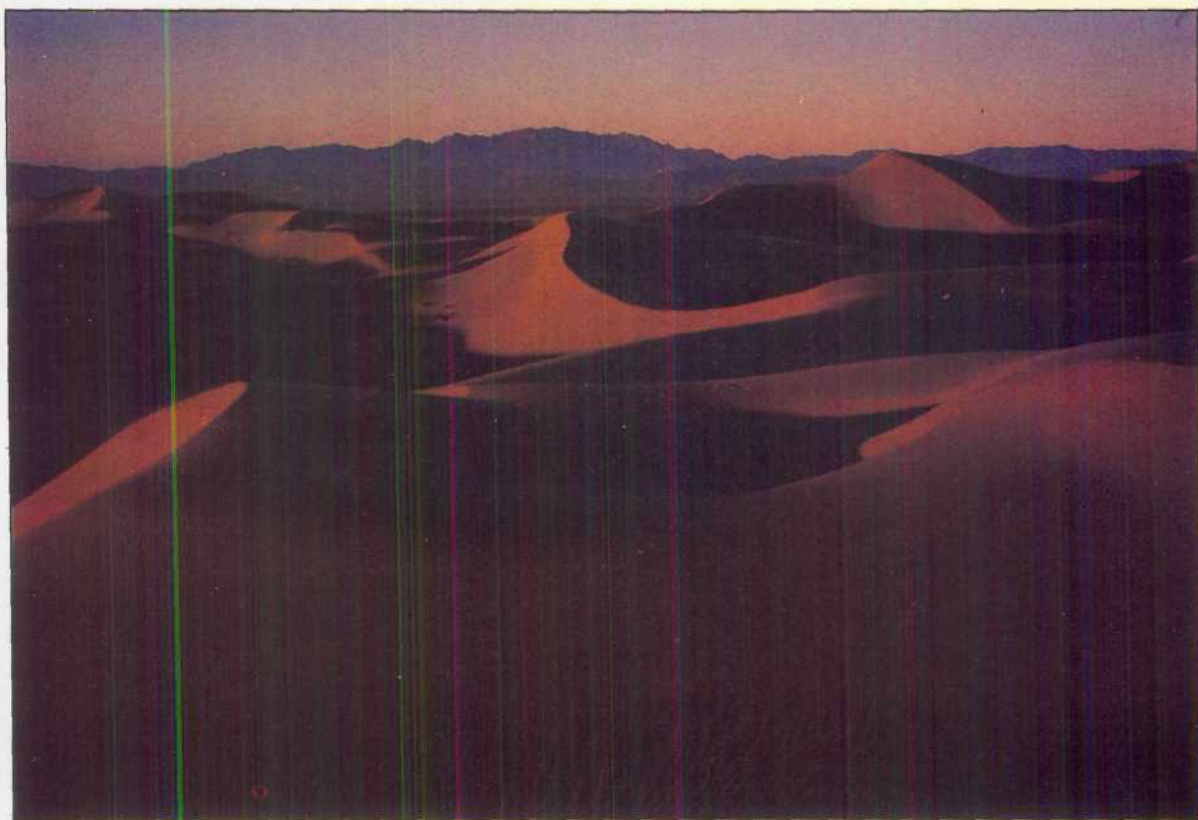
No one knows where Lee got his gold, for that secret died at Mountain Meadows on March 23, 1877. At 11 o'clock in the morning John D. Lee was executed by a firing squad on the exact spot where 20 years earlier he helped kill 121 innocent people. When the echoes of the rifles faded away, Lee was dead, but the mystery of his lost treasure had only begun.



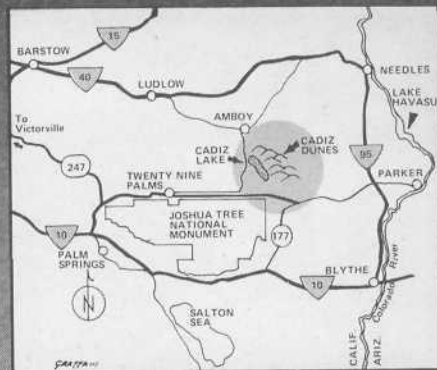
# CADIZ DUNES

*by* JOHN FRYE

*Photographs by* JOEL MUR



The formation of dunes like those of Cadiz starts with the trapping of eroded granite particles against the stones and vegetation of a dry lakebed.



Some people don't appreciate sand. Consider Lewis Carroll's famed philosophers:

*The Walrus and the Carpenter*  
*Were walking close at hand;*  
*They wept like anything to see*  
*Such quantities of sand:*  
*'If this were only cleared away,'*  
*They said, 'It would be grand!'*  
*'If seven maids with seven mops*  
*Swept it for half a year,*  
*Do you suppose,' The Walrus said,*  
*'That they could get it clear?'*  
*'I doubt it,' said the Carpenter,*  
*And shed a bitter tear.*

But all decent desert aficionados would vote down any cleanup campaign. They want their sand piled high, wide and handsome in dunes. Mention desert and some people think of cactus, camels, sheiks or belly dancers. More people, however, think of sand dunes.

Most noted of Southern California dunes is the Imperial or Algodones system in the Lower Colorado Desert. Spacious and grand, they are easily accessible. And the Dumont and Kelso Dunes farther north in the Mojave receive their fair share of fame. Among those, stretched between, are the 400-square-miles of the Cadiz Dunes, dumped on a BLM-managed plateau between the mountains in the out-of-the-way center of the desert. To reach them vultures must converge 95 miles southeast of Barstow, 80 northwest of Blythe, 65 southwest of Needles or 35 miles northeast of Twentynine Palms.

Eons ago when earth movements and lava flows pushed the Mojave River north, away from its southeasterly flow to the Colorado, a string of dry lakes was left, including Cadiz. The Sheep Hole and Calumet Mountains east of the lake were raked by strong southwesterly winds that blew eroded granitic particles skipping and bouncing across the floor of Cadiz Valley and the surface of the dry lake.

The grains of sand were trapped and piled up when stopped by stones, vegetation or the low-lying front of the

Kilbeck Hills off the east shore of the lake. Typically, sand piles up gradually, sloping windward with steeper dropoffs to the lee. Additional sand moves up the long slope and tumbles over the crest onto the slip face. When the angle exceeds what the rounded grains can support, an avalanche enlarges and advances the dunes.

Cadiz exhibits the major types of dunes. You'll find transverse, high, long, straight-line dunes at right angles to the wind and with little or no vegetation; parabolic, U-shaped dunes with a rounded nose pointing downwind and points anchored by vegetation; barchan, crescent-shaped dunes with a high center anchored and horns pointing downwind; and finally, climbing, irregular dunes formed by sand blown past other dunes and slowed by land forms.

Through the centuries very few tourists have ogled the Cadiz Dunes. The ancient Chemehauvi visited occasionally. Prospectors looked over the area late in the 1800s. Then the railway shortcut through Rice and Parker was built early in this century and a few men came to settle when mining for chemicals grew and prospered. And, certainly, veterans of Gen. Patton's tank armies from Iron Mountain passed the dunes often during their World War II training.

A geologist has said the Cadiz dune area "lacks the scenic qualities and high sand peaks of other dune fields." And perhaps they do not "sing" as do the shifting sands of Kelso but where else, thanks to the splendid isolation, can one set foot on sand with some certainty that another's foot has not gone before him?



# Our Bloomin' Desert

A Photo Essay  
by DOUG EMERSON

*Everyone has heard unkind, even caustic remarks about the desolate, seemingly barren, desert areas of our southwestern states. True, the desert is a region of scant and uncertain rainfall. However, it is far from being a lifeless wasteland as envisioned by so many unknowing persons.*

*See for yourself. This is a record, in words and pictures of what I found within a weekend's drive from Los Angeles, or it could have been from Las Vegas, Phoenix, San Francisco or San Diego. The year was 1973, an exceptional one when almost the entire Southwest blossomed into a carpet of riotous color. Some years are not as good, but none can be called barren.*

THE LOVELY WILDFLOWERS that I saw, called drought escapists, must have a certain amount of rainfall at the proper time, coupled with desirable temperatures, to burst into life. If these conditions are not met — exactly — their seeds will remain dormant, for years if necessary. Rarely do they err in their judgement.

Enzymes within the seeds, growth inhibitors and growth stimulators, determine when the time is right for a seed to begin life above ground so its cycle may continue to a successful conclusion.

Oddly enough, one year may produce a super amount of white blooms, the next year an abundance of yellows, while some years may yield tremendous numbers of red to purple blooms. Other years we have seen all colors of the rainbow on display. It is quite exciting to view as many as 20 different species from a single spot.

In 1973 we were fortunate to view one of the finest wildflower displays in 25 years in Death Valley. It could be another 25 years before a showing of such magnitude occurs again. One never knows for sure until the wondrous event takes place.

During that memorable month of March millions of desert gold blooms waved in the breeze from above Stovepipe Wells, down through the floor of the Valley, and on to Jubilee Pass.

Other species such as sand verbena, phacelia, false mallow or five-spot, purple mat, and desert goldpoppy, add their hues to the spectacle. Throughout the Monument, over 100 species may be seen. In the Jubilee Pass, Daylight Pass, and Ubehebe Crater areas we have marvelled at the displays, even as late as mid-May!

In the high country, the rare Panamint daisy with its huge four to five-inch blossoms demands immediate attention. The directive that no plant shall be picked within the Monument should be custom in other areas as well so that more persons can enjoy the fragile beauty, take their photographs, and leave the spectacle unspoiled for others.

Anza-Borrego Desert, California's largest state park, and Tuha Desert to the south, provide breathtaking views of thousands of acres of sand verbena, sand lilies, primroses, marigolds, and many other smaller varieties . . . amidst their taller neighbors. Giants in the vicinity are the agave and ocotillo, both which may reach a height of 15 feet or more.

In contrast to the large golden flowers at the tips of the agave, the much smaller scarlet clusters on the ocotillo wand provide an excellent backdrop for pictures. We were fortunate indeed to discover one plant that sported yellow blossoms rather than the traditional red.

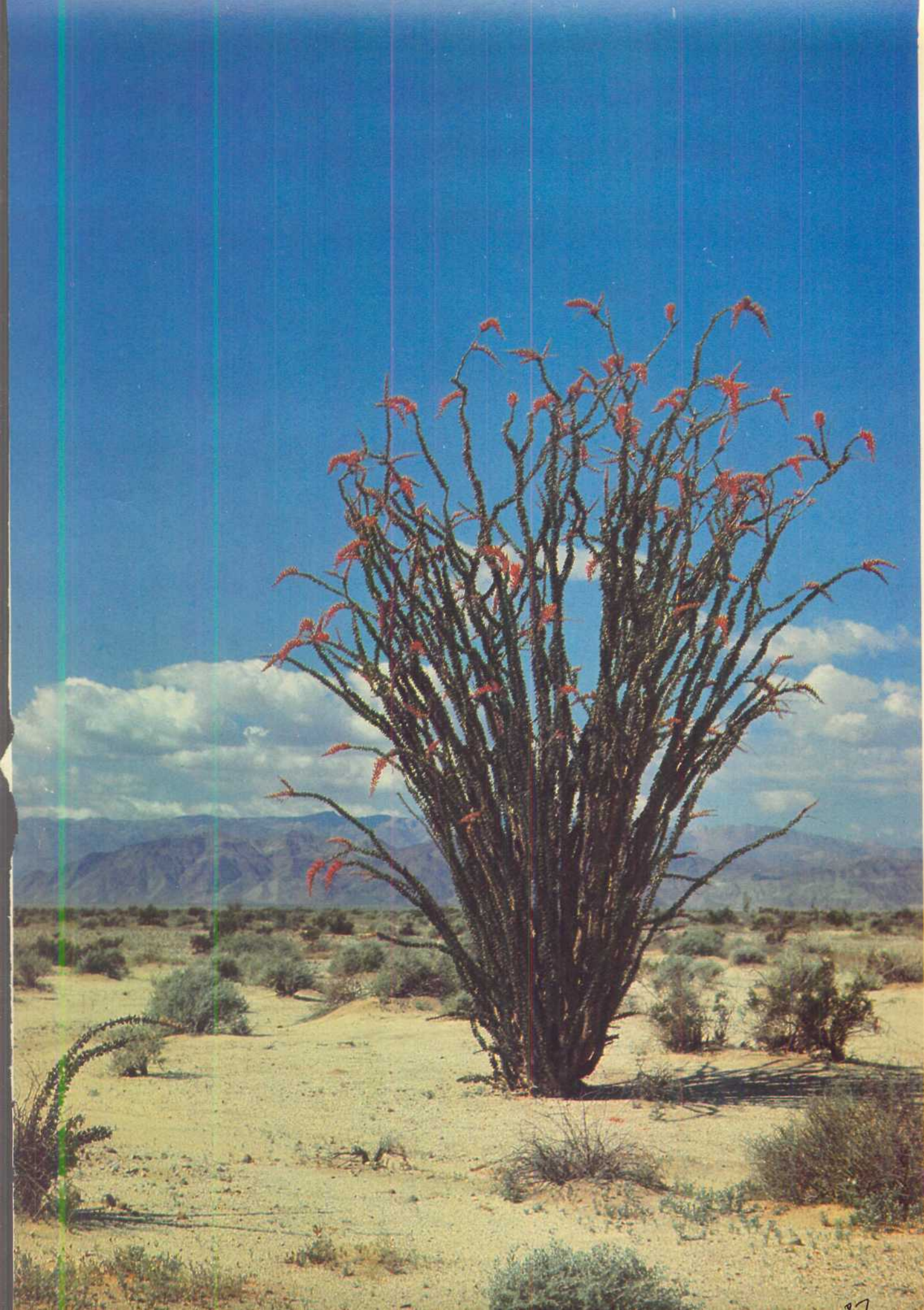
Lucerne Valley between Victorville and Yucca Valley, California is a riot of color when conditions are conducive to the particular flowers that are native to the area. We have often seen waves of gold that seemed endless as the breezes played hide and seek among the coreopsis, desert dandelions, and scalebuds. Lining the many roads, mallows, brittlebush, princes plume, desert fivespot, wild canterbury bells, chia, primroses, suncups, cream cups, scarlet mimulus, and wild buckwheat never cease to amaze the first-timer.

A little farther away, the Carrizo Plains and along highway-58 near Santa Margarita offer

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*The fiery-red blooms of the ocotillo (opposite) stand in bold contrast to the somber sands near Borrego Springs headquarters of Anza-Borrego Desert State Park.*

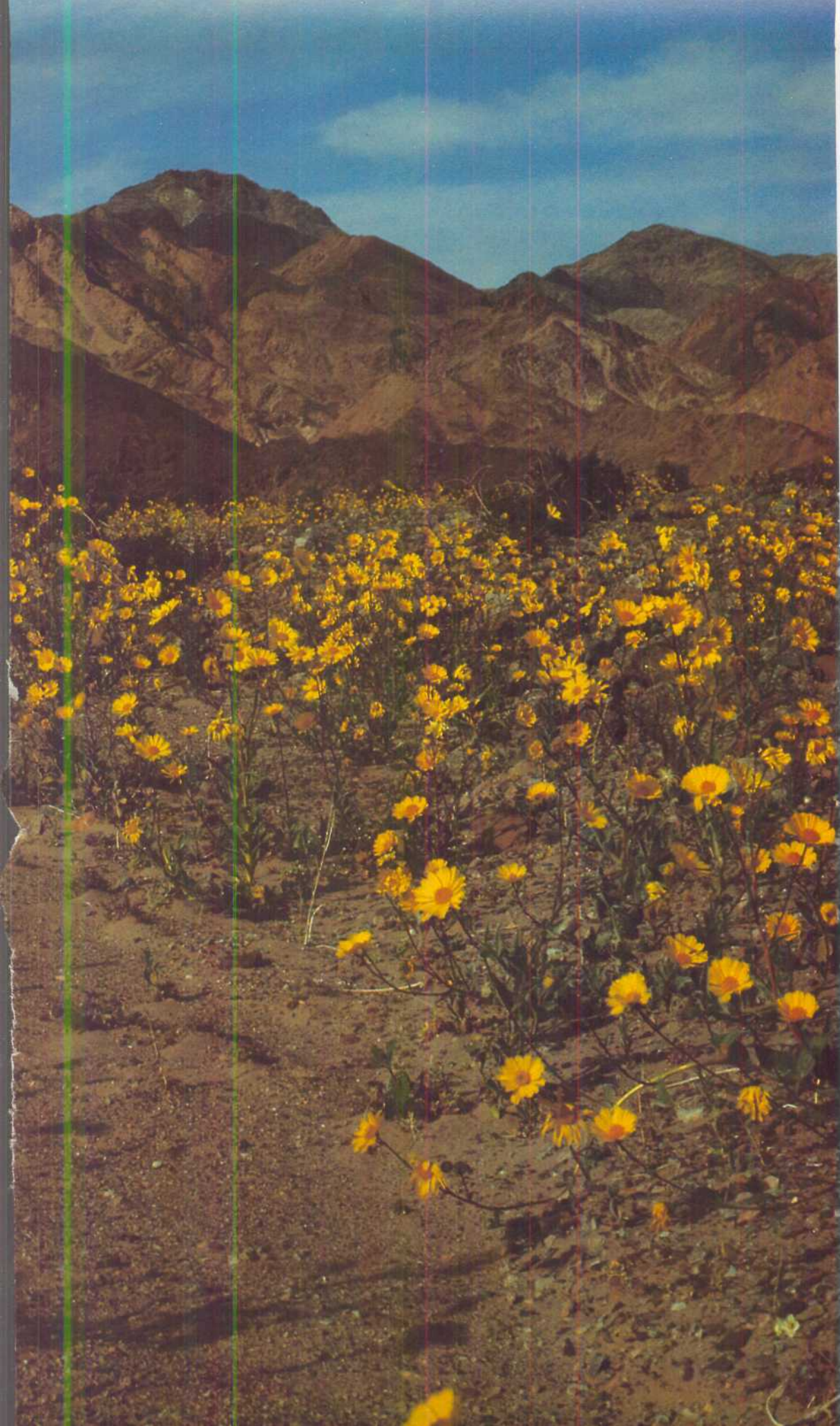












*Desert gold lines  
Jubilee Pass in  
Death Valley  
National  
Monument, a  
sight never  
mentioned in  
the logs of the  
49'ers.*





displays to stagger the imagination. Beauties such as yellow tidy tips, owlclover, lupine, baby blue eyes, poppies, coreopsis, desert dandelions, goldfields, thistle sage, and a dozen others vie for your attention.

**A** TRIP TO NEVADA can add spectacular red rock formations in addition to many new flowers for your enjoyment. One of our favorite areas is Valley of Fire state park, about 60 miles northeast of Las Vegas. The rare desert bear poppy with its crepe paper-like yellow blooms and unique basal leaves is the most unusual. The giant sun ray is quite a contrast to the tiny white desert stars. Many other "belly flowers" so-called because you must get down that low to view them, abound in this normally barren land of little water.

Once in the Valley of Fire, huge desert primroses growing out of the pink sand dominate the vicinity. Their gorgeous white blooms and yellow centers grow in such profusion that it is impossible to walk in many areas for fear of stepping on them.

Nearby, phacelia, mallows, suncups, desert marigolds, and even the lovely beavertail cactus with its magenta flowers quicken the heartbeat of all who view them.

Closer to the Los Angeles area, vast fields of California poppies, desert dandelions, pincushions, phacelia, owlclover, fiddleneck, and goldfields, to name a few, await discovery. Antelope Valley, north of teeming Los Angeles and reached by C-138 between Gorman on Interstate 5 and Palmdale on C-14, is noted for displays that are second to none. The Arvin/Edison/Caliente/Mt. Breckenridge areas are also close enough for a one-day outing.

Even if you forget your lunch, *don't* forget to take plenty of film, at least twice as much as you think you may need. Only then, with dozens of beautiful pictures to prove it, can you convince city-bred doubters that our "barren" desert can produce a show unmatched by any Tournament of the Roses. **2**

*(Above) Desert primrose heralds most springtimes at Nevada's Valley of Fire State Park.*



THE CACTUS CITY

# Clarion

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THE NOSIEST NEWSPAPER IN THE WEST ☆ EDITED BY MARY E. TWYMAN

## SHOSHONES WAR ON MISSILE

**Washington, D.C.** — The proposed MX missile system, already having some troubles in Congress, is under attack by Shoshone Indians who say it would violate their nearly 117-year-old treaty with the United States.

Lawyers for the western bands of the Shoshone argued in congressional staff briefings recently that government plans to put the \$33.8 billion MX system in eastern Nevada would violate the Treaty of Ruby Valley.

That treaty was signed October 1, 1863 by two government agents and 12 "chiefs and principal men and warriors" of the Shoshone Nation.

The agreement was negotiated on order of President Abraham Lincoln to guarantee the safety of white settlers passing over land held by the western bands of the Shoshone.

But in contrast to most Indian treaties of the time, which established reservations and extinguished Indian land claims, the U.S. government recognized formal boundaries of Shoshone land holdings in the Ruby Valley pact.

Within those boundaries are millions of acres of Nevada desert that the United States now considers to be the best site for its new missile system, comprising 200 mobile missiles that would be shuttled among some 4,600 reinforced shelters.

The United States claims the area now is "public land."

The government says the Ruby Valley treaty was nullified by an 1872 decision to establish the Duck Valley reservation for the western Shoshone, and the Indian Claims Commission has approved a \$26.1 million payment to compensate the Indians for the 1872 seizure.

But the Indians' lawyers say the Shoshone never actually took the Duck Valley land, that only a handful of people ever moved there. The rest

stayed on the Ruby Valley land that had been their home for centuries, and some 4,000 still live there.

The Shoshone say they're convinced the Ruby Valley treaty is still valid. They say they want Congress to keep the compensation money and let them keep their land.

The government has refused.

"The government is very deliberately stealing the West Shoshone land," said Tim

Coulter, an attorney for the Indian Law Resource Center in Washington.

The Shoshone land claim is a snarl of legal disputes that has twice gone to the Supreme Court. In the most recent Supreme Court action, the court refused to review a U. S. Court of Claims decision that the Shoshone waited too long to challenge the Indian Claims Commission decision.

— Desert News Service

## L.A. — HAVASU CANAL PROPOSED

**Yermo, Calif.** — Robert J. "Sarge" Hall, a mine operator at White Ranch Mines who retired from the U.S. Air Force in 1971, seeks nomination for the position of County Supervisor, First District, at the June 3rd election. He lives near Yermo at Paradise Valley. He is married and he and his wife have two sons.

Hall has a dream. He envisions the inner desert area gaining access to the Port of Los Angeles by a series of canals and locks connected with Lake Meade, Lake Mohave, and Lake Havasu. This man-made waterway would develop the desert into basins containing large populations centers, he said.

He calls his dream the "Colorado-Pacific Canal System" and part of it would be filling of a dry hole known as Soda Lake, east of Baker.

He feels such a gigantic undertaking could be com-

pleted in the year 2025. Barges would be powered along the Los Angeles Basin and a series of locks would elevate them onto the high desert and then to the three lakes mentioned.

The canals, he said, would be lined with plastic materials to prevent seepage. They

would be covered to eliminate evaporation and on the cover there could be solar collectors which would produce sufficient power; in fact, more than needed to operate the system and the excess could be sold.

Hall talked about the tech-



Rockhounds chip on green-colored blowout at Hedges. Story on page 34.



# OLD RECORDS PROVE INFAMOUS NEW PASS "INDIAN WAR" NEVER FOUGHT

**New Pass, Nev.** — It was Christmas night, Dec. 25, 1863 when a frenzied messenger panted into Austin bringing the report that the stage station at New Pass was being attacked by Indians and would be wiped out if help did not come. Two men outside the station had already been killed, it was reported, and the rest were barricaded inside.

As word spread from house to house, men began to get down their hunting rifles, load their revolvers, and saddle up their horses. Farewells were said to wives and children and about 20 men assembled on the main street about 8 p.m. where they were joined with an equal number from Jacobsville.

A number of miners who did not own horses also turned out and were designated as infantrymen, but they were disinclined to walk the 20 or so miles out to New Pass, so a local butcher was prevailed upon to contribute his delivery wagon, a vehicle which had formerly been used as a hearse by a local undertaker. Although crowded, the vehicle served the purpose and the makeshift army set off for the scene of the trouble, the "cavalry" under the command of J. D. Woodworth taking the lead.

Some three hours later, the men reached the stage station near Mt. Airy, woke the proprietor, and informed him of their mission. Although that worthy had heard nothing of the supposed siege at New Pass, he rustled up some supper for the men and allowed them to bivouac on the floor with their saddles and blankets for an hour or so.

Most of the men had brought along a bottle or two of "Christmas cheer" to ward off the cold and a few of them were warmed up to the point that they could hardly unsaddle their mounts by the time they arrived at Mt. Airy.

Following their meal, they passed the bottle once again

before retiring, but Woodworth soon sounded reveille with the bugle he had brought along. Cold, hung-over, and bleary-eyed, they saddled up again and were soon moving out into the inky blackness towards New Pass.

Fully expecting to be ambushed by marauding Indians, they split up and took to the ridges rather than taking the easier route through the canyons. But they saw nary a savage the whole way. Arriving at New Pass an hour before dawn, they awoke the sleeping operator of the station, informed him of their mission, and set about forming a defensive perimeter.

Hung over from the holiday festivities of the night before and somewhat confused as to what was going on, the operator told Woodworth that he had not seen any Indians, had heard nothing of anyone being killed, and was not in the least alarmed. Woodworth insisted that the station needed protection, however, and his commissary officers ordered that his men be fed so they could at least have the satisfaction of going

to their deaths on a full stomach.

After much threatening and coaxing, the operator of the station served up a meal of greasy eggs, fat back, and black coffee. Woodworth then got up a reconnaissance party to search the nearby hills. They saw only one Indian some distance away but lost him in the forest of scrub and juniper and pine.

As the search party was returning, Woodworth ordered the infantrymen from their meat wagon and arranged for a formal ceremony in the horse corral to disband the entire army. The foot soldiers formed ranks, snapped to attention as best they could, and presented arms as the riders came in.

Woodworth then spoke briefly, complimenting his men on their soldierly appearance and informing them that their services were no longer needed. Some of the men were disappointed in not having had a brush with the Indians, but among those who were delighted to see the "war" come to an end was the station operator who was tired of feeding the men and

furnishing them whiskey from his private stock.

Following roll call on the "battlefield" in the horse corral, the men set off for their homes, trying as best they could to forget the whole farcical foray into the wilds of central Nevada.

J. R. Jacobs, the Indian agent for the area, later made a thorough investigation of the Indian scare and found that two Indian bands had met up near New Pass and had shared a few drinks to make the white man's holiday. While enjoying their short repose, a couple of them had apparently noticed a pair of white men of whom they were not fond and had fired a few shots their way to frighten them.

The whites lit out, told a third man of the incident, and somehow the story spread that the station was threatened and several men had been killed. The Indian bands had separated and gone their own ways, knowing nothing of the stir they had created. Such was the story of the New Pass Indian War of 1863.

**Nevada Historical Society**

## WATER SHORTAGE PREDICTED FOR BOOMING NYE COUNTY MINE TOWN

**Round Mountain, Nev.** — The lure of gold once again, as it has in the past, is attracting people to this Nye County community and the growing population is putting the pressure on some of the town services like water.

For nearly 80 years the sage-scented breezes that waft across the quiet stretches of Big Smoky valley in central Nevada have been kicking up wisps of dust in Round Mountain. At times there have been as many as 400 persons working here for the mining businesses. Mostly, though, there have been fewer, sometimes only

20 or so families.

"Presently there are around 300 persons in Round Mountain with the population growing by a fifth in the last six months," said Dr. John Knechel, "and before 1980 is over there could be 500 or more." Dr. Knechel is a resource development specialist at the University of Nevada in Reno. During the past few months he has worked with Round Mountain officials on expansion of the town's water supply to meet the new growth.

What is bringing people to the isolated little Nye county settlement located on the east

side of Smoky valley in the shadow of Mt. Jefferson, highest peak in the Toiyabe range? Rising prices for gold and silver and new innovations in the technology of recovering gold from ores have quickened the pulse of Round Mountain.

The Shoshone Water Company has supplied water from Shoshone springs to the people of Round Mountain since 1906. But, the system is just not in shape to take care of the increasing demands. Moreover, the present owner realizes from the company "a net income too

**cont. on page 38**



Cont.

nical aspects of the system, using such terms as butterfly valves which would change water levels and equalize inner pressures. He said many ships today are nuclear powered and that he saw no danger in using nuclear energy to power barges.

The candidate said financing of such a large project could be raised by taxation. The feasibility study, he said, would require a county tax of one-fourth of one percent. He talked about flood water run-offs being used to fill the canal system.

Hall estimates the channels should be 25-ft. deep, and salt water from the ocean could also be utilized to fill the lower canals once the project leaves Cajon Pass. Water movement along the system also could be harnessed to produce hydro power and any excess could be sold, he added.

On a rough map, Hall's system shows long extenders reaching into the three lakes with a connection made at Soda Lake. He said water would not be changed, once the system filled.

— **Needles DESERT STAR**

## SMOKEY BEAR BANS ALL LADIES OF THE NIGHT AND SLOTS IN FORESTS

**Zephyr Cove, Nev.** — Several years ago the U.S. Forest Service took exception to an Arizona mining claimant operating what they described as a "house of prostitution" on a claim in a National Forest. Now it turns out that Smokey Bear has been operating a gambling den in Nevada.

Hoping to clean up its image, the Forest Service is getting out of the gambling

business at Zephyr Cove, Nevada.

The Chuckling Green Giant earlier bought a 410-acre resort at Zephyr Cove, complete with a number of slot machines operated by a concessionaire. Now the federal agency has decided the slots are "not appropriate to the National Forest Service's family-type recreation."

— **WESTERN PROSPECTOR & MINER**

## CLIMBING FAMILY REACHES MOON

**Needles, Calif.** — Maw 'an paw Hipokets was onst knowd as the most famus mountin climers in the hole world. Thear legs was so long that thear hip pokets came up gist under the sholder-blades, thear had klim every mountain wat was worth klimin.

I met em one dy atop midel Grand Teton Mountain in Wyomin, whilst I was hipin out sum garnet's outa the garnet. It was wilst this visit that Juneer was born. He was so shrimpish that maw Hipokets kuldent fetch him up by the heels whilst spanking him a lick sos he'd get his furst breth.

Korse they was most disgustid. Them bein mountain klimbers like they was. But old paw wasnt to dum. He sat the infent atop the mountain peak. Fasend a hevy wate on each the kids legs an set him stradling said mountain

peak. One leg on the Wyomin side. Tothor on the Nevada side. Then maw gave him a sucklin, at then headed down to the valley.

Gosh. Al hemlock. Thare we three was visitin amonxt the bull 'an kow muses grazin on the botom of a lake. Wilst a huge bull was so grazin. Gist his antlers stikin out the water. I ups 'an kliped off them antlers for a survenear to take along wen I was fixin to go bak home.

Next day the three of us. Maw, paw, 'an me. Bisy as useel. Wen paw less out a loud ouch.

Lookin around. I saw a long leg with a rock tied to it 'an realized wat it was. Soon as we kuld. We all hikes up to top mountain ware the kid was sitin. Maw nipeled him again. The kid raised up 'an spread his long legs apart then got up and stepd back to north Teton Peak sum thirty

## NUMBER FOR NAME FILLS MAN'S LIFE WITH VEXES AND MIXUPS

**Cedar City, Utah** — "What's in a name?" Well, it can be a good conversation piece and cause some problems, if it happens to be Twenty.

Twenty Taylor Orton will have been Twenty for 86-years as of May 21, 1980.

His father, Samuel Orton, married two Johnson sisters. The first sister died after having borne 12 children, and Mr. Orton then married her younger sister, Esther, who also bore him 12 children. Before the eighth child of this second marriage was born, it was decided that it would be named Twenty (whether it was a boy or girl), and so on May 21, 1894, Twenty Taylor Orton came into being.

During the last 86 years, Mr. Orton has related the story many times. While serving in the Army, the commanding officer was disgusted when he heard a resounding "Twenty" in answer to roll call. "I asked you your name, not your number" was his surly response.

"That is my name!" replied Orton.

There have also been some difficulties in cashing checks. People think he's made a mistake and put the amount where the signature should be.

Never losing his sense of humor, he often replies when asked how much he wants to eat, "You know I have to feed Twenty, so give me plenty."

— **Iron County RECORD**

## RARE BLUE AGATE GRACES CROWN OF NEEDLES FESTIVAL

**Needles, Calif.** — Gems with the intense blue of desert sky and the Colorado River adorn the Miss Needles Crown that since 1961 has been worn by the reigning queens of this city's annual beauty pageant.

The crown was created in that year by local lapidary artist and master jewelry craftsman William B. Givens, who dedicated it as a perpetual crown to be worn by each succeeding queen in her turn.

The official Needles crown is handmade of fine sterling silver, with some parts cast, others soldered, and is set with large stones of Needles Blue Agate, cut cabochon style, and polished until they glisten.

The center stone is 30 x 40 mm in size. The four on each side and one above the central stone are 18 x 25 mm. These are unusually large stones, as anyone who has done the "hard rock" mining to obtain the "blue" can verify.

In 1968, the late Mayor Herbert Martin proclaimed Needles Blue Agate as the official gemstone of the city of Needles.

The stone is quite rare, its exact type and color being found in only one location in

**Ed Lang**  
— **Needles DESERT STAR**

cont. on page 38





In its lifetime Hedges gave up \$11 million in low-grade, \$8-\$10 per ton ore.

# HEDGES: b.1880-d.1909

by Wayne Winters

**Hedges, Calif.** — If ghosts could talk, there'd be a lot of chatter going on these moonlit nights up in the Cargo Muchacho Mountains of southeastern California. Some would spin yarns of ever-present hopes of the prospector, while others would whisper about battle, murder, and sudden death at the end of a hangman's rope, six-gun or knife. But talk about everyday events in a gold mining camp would dominate most of the ghostly conversations.

Trouble is, neither ghosts or ghost towns can give voice to the past, so a quarter of a century ago a writer interviewed C. S. Walker, father to Robert W. Walker, then owner of the long-dead gold camp of Hedges-Tumco, for background on the then

crumbling city situated at the base of rugged and barren mountains in Imperial County.

According to Walker, the ore bodies were discovered in 1880 and the town that soon sprang up was named Hedges. Later the name was changed to Tumco (The United Mining Company). Strictly a gold camp, Hedges flourished until 1909, at which time the mines shut down.

Boasting 3,000 inhabitants at its height, there were two cemeteries, stores, cantinas, and all the other commercial establishments so vital to community life.

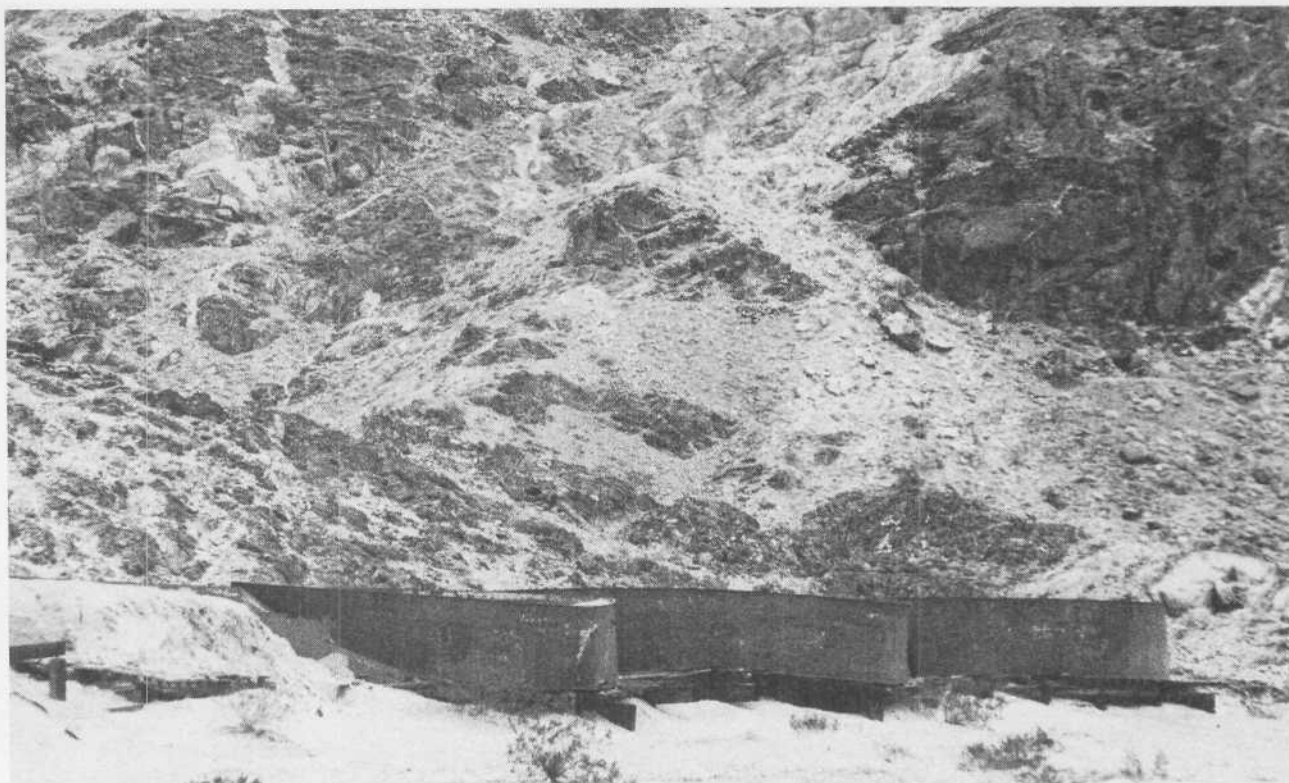
The ore, strictly gold, was of low grade, running about eight to ten dollars to the ton. However, there was a huge amount of it. In its lifetime \$11

million was recovered, according to mint reports. The main mines, all of them owned by one concern, were the Golden Cross, the Golden Queen, and the Golden Crown.

While there is no actual record of violence, the two cemeteries contain many graves. No life was ever lost in the camp due to a mining accident, but legend has it that many of the graves are filled with the remains of men who died with their boots on.

Instead of the wild, rootin'-tootin' life of the usual mining camp, Hedges-Tumco reputedly contained considerable culture. Saturday night dances were fancy affairs, with the women in formals and even the roughest mucker from the mines all dolled up in a tux.





Pachuca tanks are all that remain of 100-stamp milling operations that ceased at Hedges around 1909.

The first 100-stamp mill in the world crushed Hedges-Tumco ore. It started with 20 stamps, increased to 40, then another 60 were added. The mill was designed and built on the west coast, then disassembled and moved to its site in the center of the mining property. Eventually it was sold as scrap to a Chinese firm and was shipped to China to drop on ores in that country.

The death knell of the camp was sounded when Eastern capitalists began using it as a plaything. They would arrive in chartered Pullman cars, which sitting on the siding at Ogilby would serve as fancy camping quarters for weeks at a time while the company big-shots soaked up the desert's winter sun — and the firm's profits. The mines were literally played out, not from lack of ore but by playboys and their "soiled-dove" companions, eating up the profits until there was no longer sufficient working capital.

The property eventually came into the hands of R. W. Walker and remains a potential producer. C. S. Walker successfully cyanided dump material and mill tailings over a period of seven years, recovering considerable gold.

Today almost all of the remnants of the camp are gone, due somewhat to the ravages of weather but more so to wanton destruction by vandals. The last remaining frame building, the old union hall, was torched by visitors a

quarter of a century ago. Even the graves of the dead have not been honored, with a number of them being opened and the bones of their occupants scattered about. One group of ghouls victimizing graves was apprehended and punished.

Numerous articles about Hedges-

Tumco have appeared over the last half century. Most of them are liberally tainted with hogwash. A California daily paper once published an article to the effect that 140 Chinamen were trapped in one of the mines by a cave-in and that their bodies were never recovered. This is pure fiction for but one Chinaman ever lived in the camp, and he later removed to Yuma. There are no dead occupants in the shafts, drifts, and stopes of Hedges-Tumco.

The area now abounds with campers in trailers and pickups, as well as a liberal sprinkling of tents, for the winter weather is about the most mild of any place in the United States. The possibility remains that the mines will once again come to life now that the price brought by the precious yellow metal is staying over \$500 per ounce. The old workings, however, are in a serious state of disrepair and mining operations are not likely to be resumed until a great deal of additional exploration has been completed.

But Hedges-Tumco is a great place for the prospector, miner or rockhound to visit and enjoy. It's an historic old camp. And who knows, one might even come face-to-face with a genuine ghost-town spook. But he won't be wearing a queue, 'cause there aren't any dead Chinese anywhere around.

— **WESTERN PROSPECTOR & MINER**



BLM sign says Hedges is "fragile and irreplaceable."





# DESERT ROCKHOUND

by James R. Mitchell

**Collecting Sites Update:** The Big Mack Mine, located in the northern part of San Diego County, has produced nice gem stones in past years. Collecting is allowed on the claim at the rate of \$2.00 per person, per day, and the rockhound can work either of the two exposed veins. Blue, pink, and green tourmaline can be found in addition to beryl, topaz, and small garnets. The beryl is pink, opaque blue, and clear. The collector, of course, has to be very lucky to find gem-quality specimens of any size, but many small pieces can be found with a day's work. A large number of Indian artifacts have also been located on the property and Mrs. Hall, the owner, has an amazing collection of subtropical plants, cactus, and succulents. I recommend a visit to the Big Mack Mine. For more information, contact Mrs. L. Hall, Star Route, Box 190, Valley Center, CA 92082.

Outstanding ilmenite specimens can be obtained just west of Quartzsite, Arizona. To get to this collecting location, take the old paved road, just south of Interstate 10, for what on my odometer was four and six-tenths miles west. Turn on the dirt road and continue south behind the hills for seven-tenths of a mile. Here you will see a number of mine dumps on the mountainsides. These dumps, and the valley below, are where the ilmenite is found. Be sure to check the ownership status of any mine you choose to explore, or restrict your collecting to the ravines and valleys below. The metallic ilmenite occurs in white quartz and contrasts beautifully. Much of it displays well-formed crystals and would be a proud addition to any mineral collection. And while in the vicinity, be sure to also keep your eyes open for small pieces of jasper, chert, and other cutting materials.

Collecting of beautiful wulfenite specimens is no longer allowed at the world-famous Red Cloud Mine north of Yuma, Arizona. It has been reopened and the owners, understandably, do not want people interfering with their operation.

Nice cutting materials can be found in the washes near the ghost town of Stanton, Arizona. It is possible to pick up specimens of agate, jasper, and even black tourmaline, especially in the large wash a short distance west

of the old settlement. Stanton was originally called Antelope Station but due to the aggressive nature of one of its early residents, Charles P. Stanton, the town's name was changed in his "honor." Gold was the primary reason for founding the town, and there are still many active claims in the vicinity. In fact, a few years ago, I was able to dry-wash some colors from one of the area's creek beds. To get to Stanton, take the dirt road heading east from A-89 about two miles north of Congress. The big wash is found after traveling about four and one-half miles, and Stanton is another one and one-half miles down the road.

**New Equipment:** Mohave Industries, Inc., 2365 Northern Avenue, Kingman, AZ, 86401, has recently developed a new dop stick alignment jig to be used with material being dopped with wax. It employs optics to exactly center the stones and thus reduces grinding time and wasted material on Mohave's automatic cabbing machines. This new dop stick has a capacity of two stones at a time.

**Faceter's Guild:** Jack Williams of the Arlington Gem and Mineral Club has recently formed the Texas Faceter's Guild to build national recognition for independent cutters throughout the country who would like to share information on techniques and equipment. If you are interested, contact Mr. Williams at 6510 Camp Bowie Blvd., Fort Worth, TX 76116.

**Special Programs:** The Arizona-Sonora Desert Museum offers a continuing series of programs, including many of interest to rockhounds. One of the best is given every Tuesday at 10:30 a.m. on the Museum grounds. It is entitled "Oddities of the Mineral World" and I highly recommend attending. In addition, their Earth Sciences Center offers tours to interested groups if arrangements are made ahead of time. For more information on programs and activities, write the Museum at Route 9, Box 900, Tucson, AZ 85704.

**Helpful Hints:** One of the biggest problems many lapidary enthusiasts encounter when making cabochons is removing all the pits and small cracks. After each application to the wheel, it is necessary to completely dry the stone and carefully inspect it under strong light to determine if the

cavities have been removed. There's a good suggestion for helping to remove pits and small fractures in the Oil Belt Rockhounds' publication, *The Pipeline*. It recommends that the rough-formed cabochon be sprayed with bright red enamel paint before final grinding. The paint permeates the pits and causes them to easily be seen, whether wet or dry. I tried the technique on some jasper that contained small cavities and found it worked very well.

An article in the Wickenburg Gem & Mineral Society *Newsletter* suggests using empty 30-06 cartridges as dop sticks. Regular dop wax is used on the closed end of the shell and, because it is brass, it won't rust and less wax is needed. In addition, the stones seldom come loose, since they are air-cooled from the inside. I haven't had an opportunity to try it, but those who have used this method report good results.

**Fee Collecting Sites Booklet:** A very useful publication is available which lists hundreds of fee collecting sites all over the United States. The booklet describes what can be found and gives addresses to write for more detailed information. The locations are listed by state. If interested, send \$3.95 to Carol E. Kindler, P.O. Box 12328, Philadelphia, PA 19119.

**Gem Identification:** Interested in learning how to identify various rocks, crystals and gemstones found on your trips? If so, I suggest considering the colored stone and gem identification courses offered by the Gemological Institute of America. I have just completed both and found them to be among the most interesting I have ever taken. They do require some time and work, but the school's correspondence course instructors are very helpful and the material is well presented. Should you choose to take the gem identification course, you must have access to certain pieces of equipment. However, if you are like me and would want to purchase this needed basic equipment, suppliers can be located by examining advertisements in *Desert Magazine* and rockhound journals, or the Institute can supply it through their subsidiary, Gem Instruments Corporation. For a catalog of courses, write the Institute at 1660 Stewart Street, Santa Monica, CA 90404.



# DESERT CALENDAR

Listing for Calendar must be received at least three months prior to the event. There is no charge for this service.

May 22-Sept. 7: Exhibition. Hopi Kachina: Spirit of Life. California Academy of Sciences. San Francisco, Calif. May 22 through September 7, 1980.

July 4-6: Deming, New Mexico. Annual Butterfield Trail Days. Parade, fiddlers' contest, dances, trading post, and barbecue, hosted by costumed villagers.

Through July 27: Museum of Man, 1350 El Prado, Balboa Park, San Diego. Open daily 10 a.m.-4:30 p.m. Wednesdays free. For more information, call 239-2001. Teton-Stoux Indians, from birth to old age, will be the subject of a Museum of Man exhibit through July 27.

July 10-13: Santa Fe, New Mexico. 31st Annual Rodeo de Santa Fe.

July 17-20: Santa Fe & Taos: D. H. Lawrence Festival, marking the 50th anniversary of the death of the English author/poet who lived in Taos in 1922-25. Conference with authors Robert Duncan, James Herlihy, Richard Hoggart, Henry Miller, N. Scott Momaday, John Nichols, Philip Roth, and others; \$150.00. Lawrence recital with actors/actresses (July 17-19, Santa Fe) Dame Peggy Ashcroft, Alan Bates, Anne Baxter, Clair Bloom, Greer Garson, Julie Harris, Dustin Hoffman, Trevor Howard, Jack Lemmon, Diana Rigg and others.

July 21-25: A photography workshop in the San Geronio Wilderness area. Backpacking into primitive area. For nature lovers, flower & wilderness photographers. Discussions, demonstrations, and working field sessions. Backpacking experience and good physical condition helpful. Participants must furnish own equipment, food, camera, film, and transportation to workshop location. (Fee \$85.00) For further information and details, contact Floy L. Jarzabek, 3630 Geary Place, Riverside, CA 92501. (714) 683-4366.

August 1-9: Eighth Annual Festival of the American West, Utah State University, Logan, Utah. The Festival is a recreation of frontier life as it appeared in the 19th century. For further information, write or call: Utah State University, UMC 14 R-107, Logan, UT 84322. (801) 750-1144 or 1145.

## Monthly Photo Contest Rules

**E**ach month when entries warrant, Desert Magazine will award \$25 for the best black and white photograph submitted. Subject must be desert-related. In the opinion of our judges, none of the entries received by the deadline for our June contest qualified for an award so no prize will be awarded this month. Prize money will be added to next month's winnings, a total of \$75 for the lucky winner.

### Here Are The Rules

1. Prints must be B&W, 8x10, glossy.
2. Contest is open to amateur and professional. **Desert** requires first publication rights.
3. Each photograph must be labeled (time, place, shutter speed, film, and camera).
4. Judges are from **Desert's** staff.
5. Prints will be returned if self-addressed stamped envelope is enclosed.

Address all entries to Photo Editor, **DESERT Magazine**,

P.O. Box 1318, Palm Desert, CA 92261.



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cont. from page 32

low to justify additional capital investment in physical improvements." So, Round Mountain, still something of a frontier mining settlement, is facing problems like many towns and cities large and small all across the country.

The town board of Round Mountain and the owner of the water company contacted Dr. Knechel to help explore potential alternatives for resolving the problem. Subsequently, the owner-operator of the water company announced he might consider selling the water system to

## EXPERTS SUGGEST GERMAN SILVER FOR HOBBY WORK

Sacramento, Calif. — With the high price of silver going higher, the silversmith or hobbyist might consider trying German silver. The cost is much less and it solders and handles about the same as real silver. It even looks like silver. So why is it so much cheaper? There is no silver in it. It contains 65% copper, 17-1/2% zinc, and 17-1/2% nickel. Sterling silver contains 92-1/2% silver and 7-1/4% other metals. Fine silver is 99-1/2% pure silver. Mexican silver is 95% silver and 5% copper. U.S. coin silver is 90% silver and the balance copper. The melting point of fine silver is 1,760 degrees and for sterling silver it is 1,640 degrees. Silver solders are used for silver work and are alloyed in four different grades or melting points. Usually the harder solder is used for the first assembly and softer solders later.

— THE ROCK LEDGER

the town, and the town board passed a resolution to consider forming a water district. The county agreed to apply for a federal grant and help with the necessary legal and political arrangements. Further, the Smoky Valley Mining Division of the Copper Range Company has indicated its willingness to help.

"The water situation could become a major impediment to growth in Round Mountain," Dr. Knechel said, "with the difficulty largely being financial, although the alternative of the town taking over the system now seems more viable, especially if help can be derived via grants." Sh-

shone Water Company customers have enjoyed water rates as low as any in the state, mostly because the spring water was pure and needed no treatment, no energy is used for pumping, and because of the owner's neighborliness.

He concluded that if the grants applied for come through, customers there will still have relatively low rates compared to other small towns in Nevada. And Round Mountain can grow one more time, keeping the "ghost" away that has descended on its neighbors like Belmont and Ophir Canyon.

**Tonopah TIMES-BONANZA and Goldfield NEWS**

## MOTORHOMES STILL BEST FOR LOW-COST VACATIONS

**Detroit, Mich.** — No matter how you figure it, even up to \$2.50 a gallon for gasoline, vacationing by motorhome still beats anything except hitchhiking.

That's the conclusion of an analysis by Chrysler engineers of various types of vacations — all based on a family of four traveling 3,000 miles over a two-week period.

Meals and motel/hotel prices were held constant in calculating the cost, while the price of gasoline was varied between \$1 and \$3.

One family, traveling in a six-cylinder Plymouth Volare that averaged 23 miles per gallon of gasoline, staying each night in a hotel and eating all their meals at modestly-priced restaurants,

spent between \$1,979 and \$2,239.

A second family, hauling a pop-up travel trailer behind a 318-cubic-inch V8-powered Dodge Aspen, staying each night in a state park and eating half their meals out, spent between \$1,810 and \$2,240.

A family of four vacationing in a rented class C motorhome, staying each night in a state park and eating all their meals in the motorhome, spent between \$1,600 and \$2,350.

The study according to Chrysler engineers, proves that the economics of RV travel are still favorable in the face of any foreseeable rise in gasoline prices.

— **Desert News Service**

## CROSS-COUNTRY STILT WALK STARTS

**Blythe, Calif.** — Joe Bowen, who is walking across the country on two-foot high stilts, was in Blythe recently to help raise funds to fight muscular dystrophy.

Bowen began his trip Feb. 23 in Los Angeles and will walk on stilts to his hometown of Bowen, Ky., averaging

20 miles per day.

His goal is to raise \$100,000 through donations for the Muscular Dystrophy Foundation.

Bowen's walk is sponsored nationally by the Jaycees, according to Bob Zimmerman, a spokesman for the Blythe Jaycees. The organization is

paying Bowen's expenses plus those of a friend who is driving a motor home Bowen sleeps in after a day of walking.

During his stay in Blythe, Bowen plans to have work done on the motorhome at a local shop.

— **Palo Verde Valley TIMES**

cont. from page 33

the world. The location is near Needles. The claim is the property of the Needles Gem and Mineral Club and is opened to the public only on the occasion of the annual gem show.

— **Needles Desert Star**

## PEOPLE'S POLL AGAINST MX IN SILVER STATE

**Austin, Nev.** — A recent poll of Austin citizens regarding the MX "racetrack" missile system came up with some adverse opinions. Not all persons wished to have their names printed but they will recognize themselves.

Laurence Saralegui: "Now if they would build the MX around the White House, Congress and all their homes and everything, we could conquer two birds with one stone. They'd have to start using their heads and we wouldn't need the draft."

John Nagy: "Tell the politicians there won't be any kickback and there won't be any MX."

"It's the best thing that ever happened to our area. Look at all the jobs and money it will bring in."

"I'm leaving!"

— **Reese River Reveille**

## CHEAP GOLD

**Buena Park, Calif.** — Even Knott's Berry Farm, the popular tourist attraction in this town near Disneyland, has been affected by the soaring price of gold. Visitors must now pay \$1 instead of 85¢ to pan for gold. Knott's obtains bags of gold-bearing sand from miners in the Yukon River Valley of Alaska and from each pan, the panner should average about 12 flakes of gold. One flake is currently worth about 10¢ so even at the new prices, panning at Knott's is still a bargain.

— **Desert News Service**



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# Broken-Hearted BRAYERS

by Don Miller

**M**ANY OF THE NAMES THEY Have been called are unprintable. Others include Rocky Mountain Canaries, Pike's Peak Canaries, Southwestern Nightingales, Colorado Mockingbirds, Colorado Nightingales, asses, jackasses, jacks (males), jennies and/or jennettes (females), *Equus asinus*, donkeys, or burros.

Some authorities claim they were the first animal to be domesticated and that those still to be found in the American West were derived from a stock of African wild asses about 6,000 years ago.

Their raucous "hee-haw" bray is unmistakable. Phosphor Mallam wrote in *The Donkey Book*: "When that long-drawn rocketing peal, in swelling volume of nasal treble and guttural bass, rings and echoes through the city streets, and the tragic-comic clangour is traced to the distorted throat and bared gums of an incongruous moke, risibility is tickled, and man gives way to irresistible laughter."

Some claim the donkey's serenade is a broken-hearted cry against the pain of existence, while others call it "a voice of poetry." One observer wrote: "His nostrils curl till his teeth show, and from this tautly opened mouth comes a long-drawn-out cry, a wild 'Yah!' like a wail of the banshee, followed by three loud raspings and expiring in a series of wheezy throatings."

Not only do their voices ring throughout the West, so do legends about them flourish. Burros are frequently credited with unearthing rich gold and silver discoveries. One observer claimed the burro unassisted has developed more mines than all the railroads in the world.

Nevada folklore has it that Jim Butler picked up a rock to hurl at his burros to hurry them up and noticed it was mineralized quartz he held in his hand. This led to the discovery of several area mines and the founding of Tonopah, Nevada.

Another tale has it that "Bill," the "Jackass of the Coeur d'Alenes," discovered the Bunker Hill and Sullivan mine at Kellogg in northern Idaho — the world's largest silver producer. Some claim Bill was placed on a farm at Cottage Grove, Oregon, to live out his last years in relative luxury, which he did until he died of natural causes. A conflicting report is that the burro was brought to Murray, Idaho, where local miners tied a bundle of dynamite sticks to him, lit the fuse, and blew him up.

Still another version also claims the animal was at Murray in the late 1880s. A tambourine-playing Salvation Army lass was visiting saloons and she saw miners giving Bill booze and chewing tobacco. The young lady is said to have taken Bill away from all that to walk the straight and narrow path. But Bill escaped and wandered around in the surrounding mountains and found an unattended operating still. He reportedly chomped his teeth onto the spigot and soon died of alcohol-caused *delirium tremens*. Then there's the story which claims Bill was retired to a farm near Cle Elum, Washington where he later was shot and killed.





Tales of the uncanny abilities of burros to find water, of their superior intelligence, of their surefootedness, and of their excellent sense of direction are legion. A miner near Ouray, Colorado broke his leg. The story avers that his burro quickly trotted 15 miles to the nearest camp for help, which was promptly sent. Another burro was once used to pack a badly-injured mountain climber off Mt. Stuart in the Cascade Mountains.

In another tall story it's claimed a greenhorn to the West saw a burro with an upside-down wheelbarrow on its back. The newcomer asked the animal's owner why this was done. The owner replied that the burro frequently got tired toiling up mountainsides, so when animal and owner came to the peak, the burro was turned over onto the wheelbarrow and wheeled down the other side while he rested.

Genuine affection between man and animal was not uncommon. Perhaps the best-known and warmest relationship involved old-time miner R. M. Sherwood and a burro. Some people say the animal came to Fairplay, Colorado looking so old and wrinkled that the miners dubbed him "Old Prunes." Others maintain he was wrinkled because he ate prunes from a wooden box that had broken open after it fell from his mother's pack.

When Prunes was retired from a long life of working underground in area mines, he turned to mooching flapjacks and bread and other goodies from Fairplay residents.

Prunes finally died in 1930 at age 63 and his grave was marked by a monument featuring an inscription made from coal from the mines in which he had toiled so long and faithfully. His master, R. M. Sherwood, died in 1931 at 82 years of age. He had previously asked that his remains be buried next to Prune's monument near the Hand Hotel on the main street of Fairplay.

**W**HEN THE "PROGRESS of civilization" drastically reduced the need for burros, many were turned loose in the western wilds to fend for themselves. These are called feral burros, perhaps because they proliferate aggressively like a weed. Some were shot by "sportsmen," but most are now protected by law and still roam wild (in descending order of numbers) in California, Arizona, Nevada, New Mexico, Utah, Idaho, Colorado, Wyoming, Oregon, and Texas. More recently, some of these feral burros are being adopted under the "Adopt a Horse" program of the Bureau of Land Management.

Some burros are neither domesticated nor wild but rather, somewhere in between. These are the moochers who approach the public for a food handout and spend the balance of their time in the hills or deserts. They range the West from Custer State Park in South Dakota's Black Hills to such places as the streets of Oatman, Arizona.

**T**HE FUTURE OF the animals is uncertain. Los Alamos Lake, Arizona is a center of troubles in burro country. Burros in the area are rounded up and shipped to foster homes throughout the country through the "Adopt a Horse" program. West of Los Alamos Lake, burros are bothersome to the U.S. Navy at its China Lake Naval Weapons Center. Northward, in the Grand Canyon National Park there are plans to kill several hundred of them to protect the remote and fragile channels that run to the Colorado River. To the south they compete with bighorn sheep for scarce food. The prolific breeders eat almost anything: dropseed, Indian rice grass, mesquite, black brush, brittle bush, and lichen. They even chomp up the tender bark of the palos verdes trees.

One observer commented about what lies ahead. He claimed that the great day of the burro is past, that he has no place to call home, and that he no longer appeals to people. Of the wild burro the observer wrote: "Ownerless and homeless, he lives like the alley cat around small towns and mining camps, sometimes even getting ordinances passed against him for being a public nuisance. No wonder his heart is broken."

So, as you ramble through the West and have the chance, you might want to befriend a broken-hearted burro — or at least give one or more of them a beep of the horn and a friendly wave. Sometimes they even answer back! **Z**



Photo taken at Dole Meadows, Mono County, in 1943 by H.M. Hall was captioned "3 partners" with a notation that the prospector was 78-years old.



# The *McCain Valley* *Pictographs*



## Article and Photographs by Tom Evans

ONE OF THE rarest kinds of art created by native Americans, pictographs, also may be the most vulnerable to loss, as they are comparatively scarce and easy to destroy.

Petroglyphs (rock carvings) and intaglios (images made by scraping the desert floor) have suffered heavily from vandalism, but special circumstances work in their favor. The vast number of petroglyphs assures that some will survive, while the typical large size of an intaglio requires a major physical effort for its total destruction.

Not so with pictographs (rock paintings). One warped mind and one can of spray paint can cause irreparable loss on a wide scale. No one knows for certain what is lost

when a pictograph is ruined, but there are fragments of information from many sources that indicate who made the rock paintings and why they were made. If these indications are correct, the rock art was of extreme importance in prehistoric cultures.

THERE IS continuing effort to find out more about the meaning of pictographs, but "hard evidence" is almost nonexistent. There are a few accounts from Indians themselves, but these usually are scraps of information, often given with reluctance.

The detective work deals with bits and pieces of information, mixed with

assumptions and the little that is really known. The conclusions that are finally made rest on the loose sand of not knowing absolutely.

One of the most notable detectives in the field of pictograph research is Ken Hedges, Curator of Archaeology and Ethnology at the Museum of Man in San Diego. He recently completed an inventory of 27 rock art sites for the Bureau of Land Management in the McCain Valley Study Area in eastern San Diego County. Hedges has researched rock painting in the area for 10 years and has authored numerous papers on his findings.

The rock art inventory is in a portion of the area once dominated by the Kumeyaay



(pronounced *Koom-yi*), or Southern Diegueno Indians. They occupied most of what is now San Diego and Imperial Counties and a portion of Northern Baja, California. There is evidence they lived in the area at least 1,200 years.

The known rock painting sites occur in an area of desert mountains about 80 miles long and up to 20 miles wide — only a fragment of the area occupied by the Kumeyaay. The sites extend into Baja for about 30 miles. All of the paintings within this area have similar design features and are known as the La Rumorosa style. The name is derived from the most elaborate site of the style which is located in Baja.

All of the sites are associated with late prehistoric or historic Kumeyaay habitation. The latter is indicated by representations of men on horseback, and one site appears to depict Christian symbols. Hedges said the typical sites are in shallow rock shelters and are clearly visible to anyone standing a considerable distance from the paintings. The La Rumorosa style of paintings is characterized by human figures with fingers and/or toes (digitate anthropomorphs), lizard forms, sunbursts, circles, and grids. They are painted in red, black, white, and yellow.

The red paint is red ochre (iron oxide). The black is manganese dioxide and some charcoal. The source of white pigment is unknown but may be chalk or gypsum. The yellow is yellow ochre. Hedges believes the difficulties of obtaining raw materials and mixing the paints would preclude making the paintings for frivolous reasons.

**H**E IS CONVINCED that most of the rock art of the La Rumorosa style was done by shamans, the individuals who supposedly had the ability to contact and interact with the supernatural world.

"The shaman was much more than a medicine man or a witch doctor," Hedges said. "His contacts with the supernatural were for many purposes — to increase game, to bring about the abundance of plant foods, control weather, foster human fertility, and cure illness.

"His contact with the supernatural could occur through visions, dreams, and trances which could be natural or which could be produced by fasting or by the use of hallucinogenic substances.

"Such activities may result, as they have in many cultures, in art which illustrates mythological themes, the shaman's experiences, beings, and forces he encounters in the supernatural realm, animals from which he derives supernatural power, or the shaman himself as he performs his magical duties."

Shamanistic performances and painting may have been connected with a wide variety of ceremonies, both public and private, Hedges said. He noted that the easily visible sites may have been the location of ceremonies conducted in the presence of numbers of people. There also

are scatterings of small sites in out-of-the-way places. These may have been "power spots" where the shaman went alone to contact the supernatural and restore his power.

Among the most commonly recurring features in the rock paintings are abstract designs which Hedges believes might be pictures of phosphenes which are the light images that many people can "see" when they close their eyes. The images can be caused and heightened by rubbing the closed eyes. Phosphenes also can appear with severe headaches or if something hits your head hard enough to cause you to "see stars."

"What you are dealing with," Hedges said, "are stimuli received by the brain which the brain interprets as visual stimuli in the absence of true visual stimulation. The brain has a way of dealing with things it can't understand or cope with, so it interprets the phosphenes as light or a visual pattern.

Hedges said there are a number of basic patterns and elements that occur frequently in phosphenes. He has asked several of his friends to record the images they see so he can compare them to the abstract designs in pictographs.

"We know that the shaman used the hallucinogen, jimson weed, in trances," he said, "and this would intensify the phosphenes. There are other ways of achieving this result, such as fasting. To the north, in the Tehachapi area, the Indians ingested red ants and let them bite internally. Apparently, this also caused hallucinations."

Other designs which occur at some rock painting sites appear to be related to the Kumeyaay story of creation. These include the presence of two human-like figures, a centipede-type representation and a whirlpool.

In their story of creation, there were two brothers who lived under the earth. They came to the surface through the sea. One of them opened his eyes in the salt water and was blinded. His movements are the cause of earthquakes.

The other brother was the creator of everything. When he died, no one knew the ceremony for the dead, so one of the people was sent as a bubble or whirlpool in the river to the sea to search for the monster, Maihiyowita, a centipede-like creature.

The monster came and taught everyone the ceremony, then curled himself inside a house. Fire was set to the house and the monster was burned. He broke into pieces, which scattered throughout the world. The legend says that is how we got different cultures and languages.

Another recurring design is the skeletal figure, which Hedges said bears out a theme that is common to shamanism in North America and Siberia. The bones are viewed as the essential source of the life force, rather than the flesh and vital organs.

"In shamanism, it is from the bones that shaman is regenerated after his death and

dismemberment in the supernatural world," Hedges said. "This theme has not been specifically identified for the Kumeyaay, and the presence of the skeletal motif must remain as a tantalizing indication of all that we do not know."

**A**MONG OTHER design elements in rock art of the McCain Valley study area which have shamanistic implications are those with a sun motif. These occur at numerous sites and reflect the belief that the sun was the source of life and power.

Hedges has identified rock art sites which are associated with the winter solstice. He also located what appears to be Kumeyaay "observatories" used to determine when the sun would halt its chilly movement on the southern horizon and return northward to restore life.

"If you observed the points at which the sun rose from the time of the summer solstice (June 21st or June 22nd), it would appear to move toward the south each day. It would reach the southernmost point at winter solstice, on December 22nd," Hedges said.

"As the winter solstice approached, it was a bad time for the Kumeyaay, as well as many other people. The weather was cold and there was no new growth. If something was not done to "stop" the southern movement of the sun, there would be no new life and the world would come to an end.

"Even though the sun stopped its southern movement every year at the same time, you could never be *sure* it would happen. It was necessary to do the ceremonies. It was a time of real crisis and it was believed that the shaman was able, through his contacts with supernatural powers, to have some measure of control over the cosmos."

For the last four or five days centered on the winter solstice, the Kumeyaay could not tell by naked-eye observation that the sun was coming up in a different place on the horizon. Would it go north again and bring springtime and new life, or would it go south again? Finally, northern movement could be seen. There are ethnographic accounts that this event brought forth enthusiastic song and dance.

Hedges has made winter solstice observations from some of the places used by the Kumeyaay for the same purpose. The observatories have rock alignments in which one axis points toward a distance horizon marker such as a prominent rock or mountain peak. In one case, the horizon marker, where the sun rises, is 14 miles away and allows a great deal of precision in determining the time of winter solstice, Hedges said. But unfortunately, the rock alignments at one of the observatories have since been ruined by vandals.

**H**EDGES IS confident that a lot of the general assumptions made about Kumeyaay rock art are correct because they are based on a





general knowledge of shamanism throughout the West.

"As far as getting specific explanations," he said, "I think that literally is impossible. What we know about shamanistic experiences in general indicates that any individual shaman's experience is going to be unique, so only the person who made the painting would know what it is really about.

Are there shamans among the Kumeyaay today?

"I don't know," Hedges said. "There are people who have shamanistic knowledge. Whether they are actually shamans or not is hard to say. I think there probably are some. You can't just contact one and talk to him. I know of no one who claims to be a shaman or who says he can interpret the rock art."

**H**EDGES SAID that all but a few of the known rock art sites in the study area are either on public land administered by BLM or in Anza-Borrego State Park. There is one outstanding exception — a site called "Wikwip," or "talking rock." It is said that, if you stand in front of a particular rock at the site and talk to it, the rock will repeat your words.

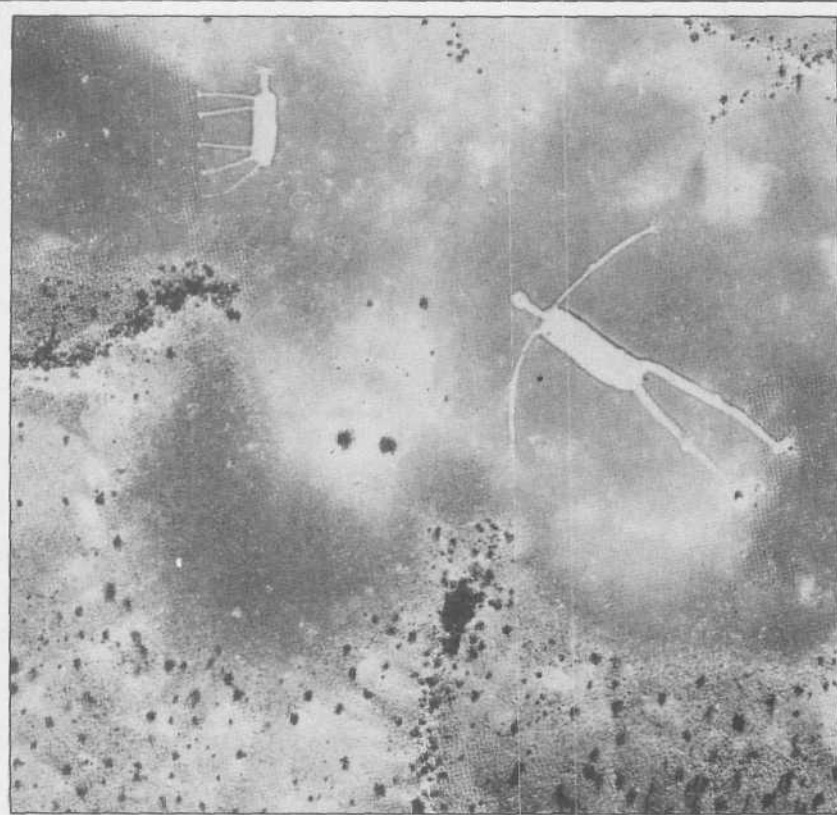
Wikwip is considered one of the largest and most significant of all known sites and it is the only Kumeyaay site on the California side of the U.S.-Mexico border about which there is ethnographic data.

In the late 1920's, Malcolm Rogers of the Museum of Man obtained an account of the site from Wass Hilmawa, a Kumeyaay, who said that the paintings in the cave were made by shamans as they prepared for

## I Found The Sleeping Giant

by

Col. F. G. "Jerry" Phillips



four questions hit me at the same time, but the answers were not to be revealed until many years later.

This fascinating episode of my early flying career occurred in November, 1923. I was flying from Santa Monica to Albuquerque in an open-cockpit, World War I biplane. I was slightly off course to the north of Blythe when, as I approached the Colorado River, the first recorded observation of these giant effigies was made.

This unusual work of man had lain undiscovered by the passing pioneers, the settlers and even modern man for hundreds of years.

My observation went unheralded because I did not realize the importance of my findings. Discussion on the subject was limited to friends and family and the matter was soon forgotten.

**A**LMOST TEN years later, in 1932, another pilot, George Palmer of Blythe, rediscovered the figures and some publicity was given to his findings. This led to further inquiry by Dr. Arthur Woodward and Dr. Charles Van Bergen, both of the Los Angeles County Museum. These gentlemen requested aid from then Lt. Col. H. H. Arnold of the Army Air Corps at March Field.

That same year at the request of Col. Arnold, Lt. Minton Kay and Sgt. Stephen McAlko reconnoitered the area and took numerous aerial photos of what Lt. Kay termed "Indian Petroglyphs." Later a short ground trip was made into the area on foot by Lt. Kay, Drs. Woodward and Van Bergen. The figures were located and data were gathered.

Struck by the enormous size of the figures and curious about the unanswered questions surrounding their origin, Lt. Kay did some research, came up with some interesting facts and theories, and wrote an article entitled "Was There an Advance Culture in the Southwest?" This excellent story was published in the *Air Corps News Letter* (October, 1932).

It appears that nothing further occurred until 1943 when Gen. Henry "Hap"

**L**OOKING DOWN from an altitude of 5,000 feet to the barren desert floor beneath me, I could hardly believe what I saw. My curiosity motivated a change in course. Flying north and dropping to a lower altitude, I could make out a distinct outline or figure of a man carved out of the dark gravel rock surface of the ground below.

It was of enormous size, at least 200 feet long, with detailed extended fingers on the end of each outstretched arm. The

exaggerated knee caps and the odd looking toes made a fascinating caricature. But this creature was not alone!

Just a short distance west of the prone man figure was that of a deer or possibly a horse. I estimated the size of the animal figure to be about 100 feet long and nearly the same height.

This unusual work of man out here in the middle of nowhere with no sign of civilization for miles in any direction — I wondered what, who, why and when? All

ritual dance. It is not known if she was present when paintings were made, or if the story had been passed down to her.

The site, about 100 yards from BLM-administered land, is a large rock-shelter cave on a hillside overlooking a permanent spring and what formerly was a large Indian village.

Paintings are located on the ceiling and back wall of the shelter. They include rectangular grids, an oval grid, sunburst, ladder, herringbone design, what appears to be a serpent, full-bodied anthropomorphs, lizards, an arrow, two-armed crosses, and other designs.

**T**HE BLM archaeologist noted that almost all cultural resource investigations on public lands administered by the Bureau are now

carried out to prevent adverse impacts on archaeological resources by some proposed project on the land. The inventory conducted by Hedges, for example, will be part of a grazing environmental statement.

If Kaldenberg could achieve a research project "for its own sake," say for Kumeyaay rock art, it could be extremely valuable. There are many Kumeyaay still living in the area, on reservations and off. Some of them might be able to shed light in an area of considerable darkness.

The subject matter is certainly intriguing. Hedges says in the summary of his study for BLM: "Rock art is a very significant part of the archeological record in that it provides one of our rare glimpses into the sacred, non-material world of the North American inhabitants." **[Z]**

...the difficulties of obtaining raw materials would preclude making the paintings for frivolous reasons.



Arnold, then head of the Army Air Corps, was flying Gen. George C. Marshall of the Army on an inspection trip through the Southwest.

Remembering Lt. Kay's report and photos of the unusual Indian "Petroglyphs" in this area, Gen. Arnold deviated from his course to show Gen. Marshall the great Indian effigies near Blythe, California.

Gen. Marshall was so impressed that later, recalling the incident in the *National Geographic*, he stated, "We were scanning the ridges sloping back from the lower Colorado River above Blythe. Then we saw them — gravel sculptures such as few men had ever laid eyes on, simple in outline, childish in form, and yet so grandiose in scale as to take one's breath away."

It was Gen. Marshall who later convinced the National Geographic Society's board of trustees that these massive carvings on the earth's surface warranted a detailed investigation by a scientific expedition.

His suggestion resulted in the formation of the National Geographic-Smithsonian Expedition of 1951 which made a detailed study of these and other sculptures in the Blythe and Ripley areas.

An account of the expedition's work, "Seeking the Secret of the Giant," by Frank M. Setzler, then head curator, Department of Anthropology, U. S. National Museum, was published in the *National Geographic* Magazine in September, 1952.

**R**ECENTLY I had the urge to revisit my sleeping giant. Over 50 years had passed since that day I first looked down upon my prone friend, spread-eagled on the desert floor. In that interval many other people had visited the place but now I was about to take a close-up look for myself.

Leaving Los Angeles I drove out through Beaumont and Banning to Indio. Then the long desolate ride to Desert Center and on to Blythe. In Blythe I made at least a half dozen inquiries as to the location of what should be called intaglios before I found a man who had even heard of them!

The attendant at a local gas station replied, "Oh, yeah, I've heard about 'em. Never seen 'em myself but I hear it's quite a sight. Go north on 95 about 20 miles."

Although it was late afternoon, my enthusiasm was at such a high pitch I decided not to wait any longer. Driving north I finally came to a roadside marker labeled "GIANT DESERT FIGURES." I parked my car and proceeded on foot.

Climbing a slight rise, I came upon a flat mesa. To my surprise and sorrow I found that the ravages of time, the devastation by the elements, and the careless acts of man had all but obliterated these ancient Indian intaglios that I had considered my personal discovery.

Motorcycle and 4WD tracks had criss-crossed the surface of the prone figures and the yearly flash floods had eroded away portions of the main figure. But as I stood in the fading twilight I was rewarded by the slow revelation of the outline of the man figure, and as I turned to my left, the horse was plainly visible, and even a small serpentine figure came into view.

In the quietness and solitude of the area I sat on a rock and began to meditate on the what, who, why and when of these figures here at my feet. Prior to coming for my first close-up look I had done extensive research, talked to knowledgeable people, and formed my own opinion as to their origin.

I believe this is one of a group of shrines fashioned to commemorate the destruction of Ha-ak, a monster, who according to Indian mythology had claws instead of fingers and toes, and who with long sharp teeth devoured little children.

When the monster was finally destroyed by a brave member of the tribe known as Elder Brother there was great rejoicing, and the first shrine was fashioned on the spot. Other shrines were made at various locations as the legend travelled with moving and intermingling tribes.

Evidence points to the Yuma Indians as the artists who created the Blythe figures by scraping and digging out the dark

brown gravel, revealing the contrasting lighter-colored tan and grey soil of the mesa.

As to the time of construction, we have two assists. One, the lack of patina or "desert varnish" on the overturned rocks and exposed gravel at the bottom of the scraped-out furrows forming the figures. Geologists tell us the patina or incrustation takes many hundreds of years to form, so we have to assume that our artists did their work in rather recent times, possibly much less than 1,000 years ago.

Then there is the figure of the four-legged animal which at first we presumed to be a deer, but with the long tail, the shape of the head, and the absence of antlers, it would have to be an image of a horse.

The Southwest Indians had no knowledge of horses until that animal was introduced into that section of the country by the Spaniards in 1540. This would then give our subject an age of 430 years or less. My guess would be just over 400 years.

**I** WALKED BACK down the slope to the historical marker on the side of the highway. The California Land Marks Advisory Commission had erected this monument to inform the public. But here also the elements, corrosion, and defacing by man made the inscription difficult to decipher. Also, the Commission chose to state that it was not known when, by whom or why these "Giant Desert Figures" were made. Such lack of imagination and initiative!

If a neophyte like myself could come up with some plausible answers, then surely they could have ventured a guess, or politely stated "It is believed that these figures were..." and then go on to give you, the visiting public, something to think about while viewing my giant.

But don't wait 50 years like I did, because in another 50 years, at the present rate of eradication, there will be little left to look at and think about. My sleeping giant will have returned to legend from whence he originally came. **[Z]**



# NORM MOLDENHAUER

a

*Collector's Collector*

---

about

Collecting *Baskets* and Stuff

by

MARY E. TWYMAN

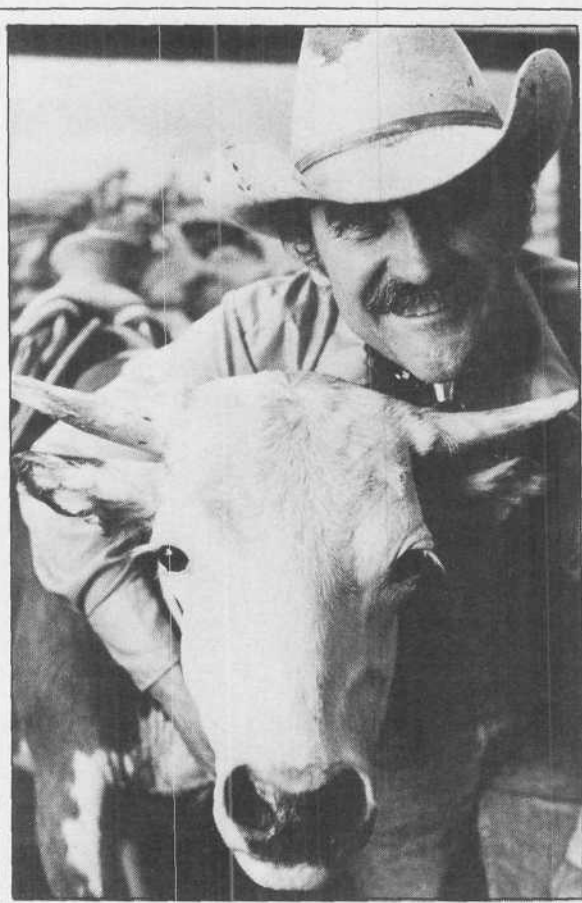
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Photographs by *Guy Motil*

**N**ORMAN Moldenhauer, dealing "Since 1956 in Western Art, Indian & Cowboy Collectables — Appraisals" according to his business card, has an easy, never-in-a-hurry way of leaning back in his chair as he talks. He doesn't readily discuss himself, but his personal life slowly evolved from glimpses as our initially somewhat formal interview melded into warm conversation. Revealed was not only razor-sharp sensitivity, but shrewd business instinct and astounding in-depth knowledge of the contents of his shop, Southwestern Antiques & Gallery, on Camino Capistrano in San Juan Capistrano, California.

Western paintings line the walls. Ancient Indian baskets, some large enough to hold a four-year-old child, others the size of a catsup bottle lid, and some with a price tag of \$4,000 are everywhere. Pottery, Indian beadwork, arrowheads, the Manzo Charro saddlery collection brought out of Guadalajara last year — all of this is pretty impressive evidence that Norman Moldenhauer is a collector's collector, one who serves the connoisseur.

"The past eight to ten years has seen a revival of basket weaving, but fine weaves and detail of design are non-existent, just never seen anymore." As Norm pursued this line of thought, he told how the hard times of the early 1930s, the urgency for young Indians to seek different careers, and World War II, caused the old weavers to die without having passed the art on to their children. They had used only natural materials gathered from the desert or mountains and they grew their fingernails long and



sharpened them to points to aid them in achieving fineness of design. He referred to Dat-so-la-le of Nevada's Washo Indian tribe as being the most famous weaver, saying her work has never been surpassed. She was 60 years old in 1909 and at that time, when most Indian baskets were selling for \$1.50 or \$2.00, her's were bringing \$150 to \$250. They are presently valued at as much as \$50,000! Norm has never owned one, explaining that "there are not that many and they are almost never for sale."

When I asked about "natural materials," Norm's wife, Jeanine, loaned me an excellent book, *Indian Baskets of North America*, by Dr. Frank W. Lamb.

Dr. Lamb writes of the Aleutian women of Alaska employing beach grasses and a wild rye because these were the only materials available to them, and splitting these grasses to near thread size and weaving them "... to approach an appearance of fine cloth." Because they "... were limited for decorative materials, they learned quickly the beauty of varied techniques of twining to produce a pattern."

Of the northwestern basket makers, the Salish Indians used the coiling technique in two forms: coiling over a cedar splint with red cedar root, and coiling over a bundle of fine roots or grasses. The baskets made with the splint technique were rigid and used as a pack or burden basket. The fibers used in the baskets made with the bundle technique would swell with moisture and

---

(Opposite) The famous Don Manuel Pereguinia fashioned the silver, an unknown artist the maguery, for this magnificent, 100-year-old Charro saddle.









*Norm and Jeanine Moldenhauer stand in their basket-hung gallery. Behind them is the Inaugural Saddle, once owned by Mexican Presidents Obregon and Cardenas.*

become water-tight. Heated stones were placed in this type basket to cook food.

Northern California's Pomo Indians "... made the use of feathers come alive in a symphony of blended colors. The plumes of quail, the redtops of woodpeckers, the yellow of the flicker and the iridescent plumage of others were woven into fine gift and ceremonial baskets."

The Southern California Mission Indians "... made use of the juncus almost entirely as a sewing material and the coil is usually a bundle of grasses." Naturally the juncus stem is straw color, with the lower part of the stem being dark brown. To dye it black they buried it in mud. Devil's claw (*martynia*) was also used for black.

The Death Valley Indians or Panamints, of the Great Basin weavers, used "... sumac or willow stems for the foundation of the coils" For black they used devil's claw and for red they used yucca tree root.

Of the southwestern weavers, the Papago Indians used a bear grass bundle in their coiled baskets and split yucca and devil's claw for the sewing weft. The Chitimacha Indians in the southeastern region are famous for their use of cane, and sweetgrass, which retains its aroma for years, was used by the Algonquians of the Northeast.

Norm, perhaps, could have written this

book with an erudition matching that of Dr. Lamb, but he is one of the few serious dealers in Indian artifacts who doesn't claim some Indian heritage; his ancestry is entirely German. His interest became aroused by his friendship with the Lee brothers who owned Lee's Trading Post on Beach Blvd. in Stanton, California. The friendship began about 25 years ago when Norm was twenty-two. He never knew the first names of either one of them; he would just walk into their trading post and say, "Hi Mr. Lee," and both brothers would answer 'Hi'. They were both bachelors and had collected for years. They would talk to Norm about arrowheads and Indian rugs until his "head hurt," and now he only wishes he could have absorbed it all.

Norm remembers carving a totem pole out of a telephone pole, which he sold to the Lee brothers for \$60. They always argued, and he remembers them bickering over where, in front of their trading post, they were going to put it. One of the brothers died in 1961, and the other followed in 1965 at the age of 79, Norm having taken care of him the last few months of his life.

In 1966 Norm and two others opened the Treasure Trails Indian Shop in the Disneyland Hotel. He sold his interest and started Norm's Trading Post on the Pacific

Coast Highway in South Laguna in 1967. It was out of this store that he was able to buy his first major collection of 360 baskets, that of John Steven McGrority, for \$11,000. This collection contained representative pieces from all the tribes of the Southwest, and was one of the largest major collections to come on the market. His timing was excellent for it was then, in 1968 and 1969, that new collectors started developing. The first 100 baskets brought a retail price of \$17,000, and he sold the remainder for \$2,500. The same collection today would sell for over \$300,000!

He sold that Trading Post in 1970 and went on the road as a trader for four years, dealing primarily in Indian baskets and rugs. Then, he opened Southwestern Antiques & Gallery in Laguna Beach in 1974. He moved to San Juan Capistrano in 1976 and was able to buy the Eugenia Foster collection of 1,800 baskets, which is the largest private collection, including 400 miniatures, to have ever been sold. It has one or more pieces representative of each tribe of weavers in the United States, with over 300 of them being from the Apache tribe.

Norm and Jeanine, the business end of the business, have been married 27 years, and while Norm was talking on the phone with an out-of-state caller, Jeanine explained that the beaded squaw dresses and moccasins were from the Leo Carrillo collection and filled me in on the gallery's outstanding Charro collection, originally gathered together by Don Manuel Manzo Pineda who established the Charro Association in the 1920s.

Included in this selection of saddles, spurs, hats, and swords is one saddle originally made for Yldefonso Asunza of San Luis Potosi around 1870. As a young man, Asunza was issued, in 1820, the 36th license to own and ride a horse by the last Spanish King to rule Mexico. The saddle was later given by his family to President Obregon as an inauguration gift. President Obregon subsequently presented it to President Cardenas for his inauguration. Another one of these saddles was given as a gift to Pancho Villa who, in turn, presented it to one of his Generals."

I came away from meeting Norm believing that he deals not just in collectables, but in tangible phases of history. If one could trace the lifetimes just one Indian basket has touched, from the hands that wove it, the people and purposes it served, to its present place of honor and value in Norm's gallery, pages would be covered.



*Every basket weaving tribe is represented in the Gallery's collection, which was acquired from Eugenia Foster in 1976.*

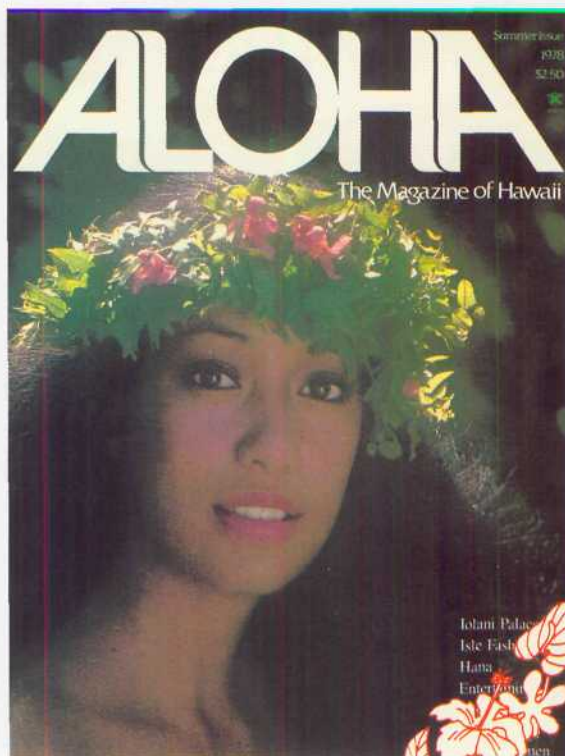


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# THE LIVING DESERT

## HANGING IN FOR 10,000 YEARS

by Karen Sausman

**A**S IF A COMPULSIVELY tidy mind had planted them with a compass and a ruler, evenly spaced creosote bushes (*Larrea tridentata*) steady 35 million acres of North American desert. Uniformly tall and uniformly green, the unbroken monotony of the creosote bush flat conceals an astounding secret: Many of these unpretentious plants are thousands — possibly 10,000 — years old.

You can't tell their age by any of the usual signs: They aren't gnarled, their trunks do not gain girth with the accumulation of growth rings, and neither do they grow enormously tall. Unless you know what to look for, one creosote is just like another and another and another.

The secret is in the pattern of bushes, not in the individual's growth. Aged creosote ring bare ground, in the center of which long ago grew a single parent plant. Gathered together at the soil line into a tight stem crown and topped by sprays of bright green foliage, the young creosote bush looks very much like a bouquet of

wiry gray stems. A large bush may have dozens of such branches, none much more than an inch in diameter. From a distance, the tiny foliage looks dense; up close, it is light and lacy.

As this central parent matured, two simultaneous things happened: some of the older branches in the middle of the "bouquet" died and the younger, outer branches growing parallel to the soil were covered and took root. These new branches spread out and away from the old system while in time, all of the oldest branches in the middle of the stem crown died.

Over tens of hundreds of years, the clone continued to spread outward as branches and roots on the inside of the ring died and decayed. The neat circle grew at an average rate of two inches every 100 years. An open area of exposed soil at the center of the clone ultimately resulted. An ancient creosote is signalled today by a bare circle (or ellipse) two to 20 yards wide and surrounded by "individual" bushes that are the unbroken growth of one plant many thousands of years old.

Frank C. Vasek, a botanist at the University of California, Riverside, discovered the exceptional longevity and cloning capacity of creosote bushes. His findings, verified by radio-carbon analysis, radically altered scholarly guestimates which limited bushes to lifetimes of 100 to 200 years. It seems certain that some living clones have been growing since the first seedlings colonized the Mojave Desert at the close of the Wisconsin glaciation, about 10,000 years ago.

Creosote, often mistakenly called greasewood, has always been well known as the most adaptable of our desert plants. It thrives where very little else can even gain a root-hold, because its long tap root extends to the water table and its widespread surface roots take advantage of seasonal rains. Furthermore, it protects itself against competition for available water from its own kind by exuding a somewhat mysterious chemical inhibitor that prevents seedlings from rooting too near the established plant. This standoffish trait also accounts for the uniform spacing of bushes within stands of creosote.

Creosote lives in the hottest climates because its very small waxy leaves neither overheat easily nor lose water when the stomata are closed and photosynthesis is halted. In the warmest deserts, the bushes tend to be taller so that the leaves are farther away from blistering ground temperatures and can take advantage of

cooling winds. In colder deserts, the bushes are stubby because the air near the ground is warmer and better for photosynthesis.

The spring bloom which ordinarily covers creosote with oodles of small lemon-yellow flowers may be greatly reduced or even entirely absent during periods of extended dryness. Given even a little water, flowering and leaf production will resume. The greater the annual rainfall, the longer the flowering season, and creosote may even bloom all year long. Leafing, on the other hand, doesn't fluctuate with the water supply. A minimum amount of rain triggers a maximum number of leaves, somewhat similar to the ocotillo.

The only thing a creosote bush isn't adapted to handle is severe cold. Six consecutive days of below freezing temperatures will kill the same plant that can endure up to five years of severe drought. Consequently, creosote is absent from our coldest deserts and higher altitudes.

Because it is a dominant plant throughout most of the Southwest, creosote plays an important role in desert ecology. It stabilizes the landscape and provides protection, shelter, and nourishment to a variety of animal and plant life. As might be expected, numerous animals are creosote specialists, including bees and the tiny creosote gall midge whose larvae produce the green or brown pompom structures that often decorate the bush. Scores of insects and spiders use the bush as a water and food source, a place to hide, a hunting site, and as a location for reproductive activities. Every part of the plant is exploited — its flowers, petals, leaves, stems, flower buds, seeds, and seed husks — by birds, reptiles, and mammals as well. Even the root structure is useful, for it anchors the nests of burrowing animals. Its breezy structure provides little solid shade but in the desert, even filmy shade is better than none. Annual plants often clump around creosote as do other tender seedlings and animals seeking protection from the sun.

Because creosote dominates the vegetation of the Coachella Valley, it is well represented at the Living Desert Reserve. Native plants are used exclusively in the Reserve's landscaping and botanical garden. Visit the Living Desert at 47-900 South Portola Avenue, Palm Desert, seven days a week from 9:00 a.m. to 5:00 p.m. until the end of May. The Reserve will reopen on the first day of September.

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## Trail Foods

by Stella Hughes

**B**ACKPACKERS, OR ANYONE else traveling light, who plan on camping out overnight often purchase a slew of pre-mixed dried foods called trail-foods or trail-mixes. The variety is endless, and there's everything from crunchy cookies, munchy cereals, chewy candy bars, punchy powders (needing only addition of water to make a zingy, nutritious drink) to whole meals weighing mere ounces but containing enough energy food to sustain a hiker for several days. Most of these prepared, light-weight foods are delicious (any food is apt to taste good when you're wolf-hungry) and it's *big* business. Dozens of companies vie for the millions of dollars spent each year for trail-foods.

Is this a brand-new industry springing up in the last decade to accommodate the needs of backpackers, the jillions of bicyclers, motor-bikers, horseback riders, (yeah, even hitch-hikers) demanding light and nutritious meals for the road? Well, hardly. I suspect the *original* trail-pack was when Adam and Eve sun-dried some apples, added some snake jerky, wrapped it in some left-over fig leaves, and took it to munch on during their journey out of Eden. Then, if you won't buy that, how about Folsom man gathering berries and grass seeds in his hairy hands to sustain him while tracking the 16-toed sloth?

The American Indians had a corner on the market for trail-foods when Columbus landed, somewhat off base, back in 1492. Dried meat (the Spaniards called it *Charqui*), dried berries, seeds, roots, nuts, smoked fish and game (everything from rats to lizards to fowl), and wild vegetables. The noble redman's dried berries, parched corn, suet, and jerky, pounded and packed into gut casings was known as pemmican. Pemmican was pretty hard to beat as a nourishing and tasty snack for the long trail.

Always the chief interest of anyone preparing for a trek into country where stores or trading posts are absent is to save weight any way they can. They want food that will be mouth-watering good, nourishing, and easy to pack. Serious backpackers should check out freeze-dried foods available in sporting goods stores. These include hearty main dishes and desserts that are generally prepared by adding cold or boiling water.

Pancakes aren't at all difficult to make when backpacking. Take along hot cake or waffle mix, pre-measured, in plastic bags. Carry fresh eggs (powdered eggs can be pretty bad) by breaking them into a tall, narrow olive jar. The eggs will pour out one at a time when you're ready to use them. A three-ounce jar will hold three eggs. Alka-Seltzer bottles will hold two *beaten* eggs but not, however, very large eggs, so use small to medium size. And there are other suitable containers to carry



fresh eggs, whole or beaten, such as glass or plastic spice bottles with sturdy screw-on lids. Never throw away an empty spice bottle as campers can find a dozen different uses for them. Just remember to remove the original labels and paste on new ones.

### Ready-Mix

Before your trip, make up a ready-mix that can be used for biscuits, pancakes, doughnuts, upside-down cake, dumplings, fry-bread, and coffee cake:

8 cups all-purpose flour  
1 tablespoon baking powder  
1 tablespoon salt  
2 teaspoons cream of tartar  
1 teaspoon baking soda  
1-1/2 cups nonfat dry milk  
2-1/4 cups shortening

In a large bowl, sift together all dry ingredients. Blend well. With pastry blender, cut in shortening until evenly distributed. This makes about 12 cups of ready-mix.

Practice at home, using your biscuit mix, on proper amounts of sugar and spices to make delicious doughnuts, cookies and even cakes, all of which can be baked in packable Dutch or reflector ovens.

### Hot Chocolate

Combine one 25 oz. package of instant nonfat dry milk to one jar (6 oz.) powdered non-dairy creamer, 2 cups powdered sugar, and one can (16 oz.) instant chocolate, or you can combine cocoa in any desired amounts. This batch will make about 18 cups of hot chocolate drink. Pack in waterproof bags in case of rain. To make a hot chocolate drink just add 2 heaping tablespoons of ready-mix to one cup hot water. Stir to dissolve.

### Granola Mix

This recipe will make a batch large enough to last several days for a family of four.

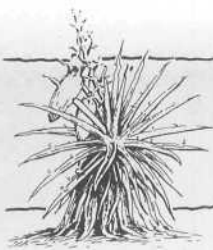
10 cups old-fashioned rolled oats  
1 cup wheat germ  
2 cups raw sunflower seeds  
1 cup sesame seeds  
3 cups chopped nuts (combination of almonds, walnuts, pecans, etc.)  
1-1/2 cups brown sugar, firmly packed  
1-1/2 cups water  
1-1/2 cups vegetable oil  
1/2 cup honey  
1/2 cup molasses  
1-1/2 teaspoon salt  
2 teaspoons cinnamon  
3 teaspoons vanilla  
Raisins or other dried fruit, chopped, if desired.

Preheat oven to 325 degrees. In a large bowl combine oats, wheat germ, sunflower seeds, sesame seeds, and nuts. Blend well. In a large saucepan, combine brown sugar, water, oil, honey, molasses, salt, cinnamon, and vanilla. Heat until sugar is dissolved, but do not boil. Pour syrup over dry ingredients and stir until well coated. Spread into cookie sheets with sides and bake 25 minutes or until golden, stirring frequently. Cool. Add raisins, dates, or any other dried fruit, chopped. Makes 20 cups.

Variations can be obtained by using shredded coconut, or mixing some with chunky peanut butter to be eaten as a snack between meals.

Preparing a few basic ready-mixes makes good sense as they prove to be time and money savers, and using them makes less cooking more enjoyable for the cook. This often proves to be the *biggest* sales point of all!





# DESERT BOOK SHOP

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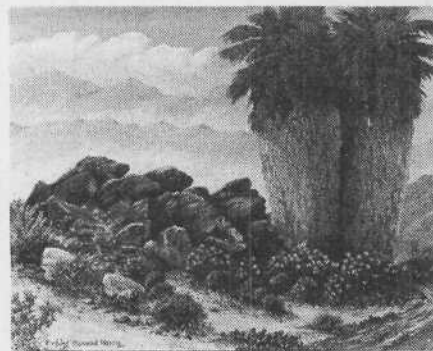
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